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FOR 1842.

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EDITED BY

MESSRS. YOUATT AND PERCIVALL,

ASSISTED BY

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THE

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LECTURES ON HORSES.

By WILLIAM PERCIVALL, *M.R.C.S., Veterinary Surgeon First Life Guards.*

LECTURE I.

FORM AND ACTION.

"A horse! a horse! my kingdom for a horse!"

WHEN Richard in the heat of battle made use of this soul-stirring exclamation, I take it he wanted a horse with form, and fire, and action, such as England alone, no less perhaps in those days than the present, could furnish him with. In what other part of the world could the *Hotspur* spirit of Richard have been suited? or where could he have met with an antagonist well enough mounted to have required such a steed to oppose him with, save in Britain? Exists there in any other country cavalry equal to our own? Can a horse of any foreign breed out-run the English racer? Acknowledgedly in possession of the finest and fleetest horses in the world, is a proof—and a pretty convincing one—that our knowledge concerning them, in a practical point of view, has attained a degree of eminence of which we may justly feel proud; and yet in veterinary and equestrian literature we appear to be behind France and Germany, and, perhaps, Italy too. We have several modern books on veterinary medicine—we have some on anatomy; but we lack one on what is commonly called "Exterior Conformation:" this want I propose to use my humble endeavours in the present lectures to supply.

Animal bodies have been compared to works of art and to machines and engines of various descriptions. Such comparisons, at the same time that they manifest their boundless inferiority to their great prototype, have still had their use in serving to explain

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and elucidate the structure and operations of that most curious and delicate and wonderful of the productions of Nature,—an animal machine. Simple and uniform, and beautiful in appearance, as are the exteriors of Nature's organic creations, their interiors are in truth, in the sublime language of the psalmist,

"Fearfully and wonderfully made!"

Such is the complexity and intricacy of the animal fabric, that, notwithstanding men of the greatest sagacity and spirit of research have, from the earliest ages, laboured in developing and explaining it, there still remain parts of the body whose structure is concealed in mystery; and as for the connexion subsisting between body and mind, anatomists and physiologists of the present day are hardly more informed than were the metaphysicians of former ages.

"Through the dis-closing deep
Light my blind way: The mineral strata there
Thrust blooming. Thence the vegetable world,
O'er that the rising system more complex
Of animals, and higher still the mind."

Whenever a man has elaborated any complex or delicate piece of machinery, in order to preserve it he incloses it in some sort of case: in this he does but imitate Nature, who has furnished all her organic productions with complete tunics or cases—some of one kind, some of another, but all pleasing to view, and most completely effectual for the purpose of protection against such external agency as must of necessity be encountered. This covering—commonly called *skin*—is that which composes the *exterior* of the animal. But Nature does not stop here. In addition to a skin she has given a sort of clothing to animals: some she has covered with scales, some with feathers, some with wool, some with hair. From the observations Lord Byron made in the course of his travels and residences abroad, he was led to believe that even the hair of the head of a woman, if suffered to grow to its natural length, would in time serve as a vesture for her body. Man, in a savage unclothed state, would no doubt appear in some such natural pilous garb as that in which Orson is pictorially represented.

There is not only a difference in the material furnished by Nature as a clothing for animals, but there is an evident difference in the quality or texture of the same material, according to the breed or variety of the species: compare the coat of the cart-horse with that of the racer, or rather contrast it with the satin dress of the Arabian, and this difference will at once be manifest. Though there are, however, these striking and obvious distinctions as re-

gard the species, a great deal concerning texture or quality of coat depends upon climate, soil, domestication, &c.

The outward form of the animal is regulated by the construction of the interior of its body; and since we take this in all cases to be that which is best suited to answer the ends of its creation, it follows that no other form or shape for that peculiar to the animal could have been substituted. The form of the fish is that best adapted for suspension and swimming in water; that of the bird for suspension and flying in air; that of the quadruped for fleetness, or for travelling under heavy burthens upon land; that of man in his capacity as

"Lord of the creation."

But form admits of division into *size* or *magnitude*, and *shape* or *symmetry;* and as we have seen that the shape of every animal is that which proves most conducive to its design, so we shall find on investigation that the *size* of the animal, so far from being an affair of chance or accident, has likewise been considered. The animal creation presents examples of every conceivable variety and degree of magnitude—from the mite, discernible only through the microscope, to the stupendous elephant and astounding whale. Shall we call this a freak of Nature? rather, shall we not discover in it *design?* yea! and design most ingeniously worked out to answer the various ends for which the different creatures were created. Was not the elephant made of gigantic size in order that he might possess surpassing strength, to enable him to travel under enormous burthens? On the other hand, was not the mouse formed diminutive to render it light and agile, and apt to run into holes, and chinks, and corners, to elude its pursuers?

This brings us to the consideration of a law of Nature regarding magnitude,—that great bodies move comparatively slowly or with difficulty—a law which, though not strictly measurable by an arithmetical scale, is nevertheless one that, in the animal kingdom, will be found pretty generally to apply. Compare the tardy and tedious march of the elephant with the nimble-footedness of the mouse; the sluggish walk of the cart-horse with the amble of the pony; the heavy step of the grenadier with the light active trip of the little man of business; and in every instance there will appear some exemplification of this law. Is not this enough to shew that the height and bulk of animals has not been a mere affair of chance or accident, but a principle of design for wise and benevolent purposes? Is not the large cart or dray-horse as useful a creature in his way as the racer or the hunter, the cob or the pony? Could any one of these completely supply the place of the other? Could the racer drag the brewer's dray?—the dray-horse run the racer's course?—the pony carry the cob's twenty-stone weight? It is,

now-a-days, notorious enough among "judges of horses," that size and bulk are indispensable for the carriage of heavy weight and for the draft of heavy carriages: a lightly made horse, however intrinsically good he may be, cannot perform in such situations.

We must take care, however, not to run away with the impression that, in animal structure, capacity, or what is called "goodness," increases in direct ratio with greatness. When it does—which is only now and then—nothing short of the same size and volume can prove equivalent to it. Every horseman well knows that "a good big horse" will always beat a good little or less horse, the difficulty being to *find* the former. Everybody has a good pony. There hardly ever was known a bad one. But how few persons have possessed good sixteen or eighteen-stone-carrying hunters! Our best racers and hunters have all been *great* or *big* horses—horses 15..2 or 16 hands high, and large in proportion. Need I mention the names of Selim, Reubens, Castrel, Sorcerer, Soothsayer, Voltaire, Charles XII, Middleton, Velocipede, Camel, and, last and greatest of all, Harkaway? or need I say to my reader,—"go into Leicestershire, and look at the hunters there, and you will see my observations amply enough verified?" so that, when goodness is combined with greatness, perfection is nearer approached than in any other form.

The following mares were equally remarkable for size and excellence: Altisidora, Fleur-de-Lis, Queen of Trumps, Crucifix, and Orelia.

When I speak of largeness or bulk, I am not meaning *fatness:* a fat horse is a proportionably weak horse. *Adeps*, or fat, is an oily matter, itself unendowed with life or sensibility, contained in cells, as honey is within the honey-comb, which are vital, and endowed so that they have the power either of adding to or taking from the quantity of oily matter at any time existing. The use of fat is to fill up crevices in the body, facilitate the movements of parts one upon another, and serve as a sort of internal nutriment, in case the animal should be in a situation where he cannot obtain food: but, when it accumulates, instead of facilitating the motions of parts, it clogs and impedes them, and becomes, from its collected amount of weight, a burthen to the body. A fat horse is not only unfit to go, but really has a weight within himself to carry which the horse in condition for work has been disencumbered of. A fat horse will not bear the loss of blood the same as a horse in a working state of body; the one will faint from the abstraction of a quantity which the other will stand without being affected. Plumpness, which arises from fatness, is too apt to convey to the eye of the inexperienced the impression of strength and ability to go to work; whereas it ought, I repeat, be taken as a proof to the contrary. When a purchaser enters a dealer's yard to buy a horse,

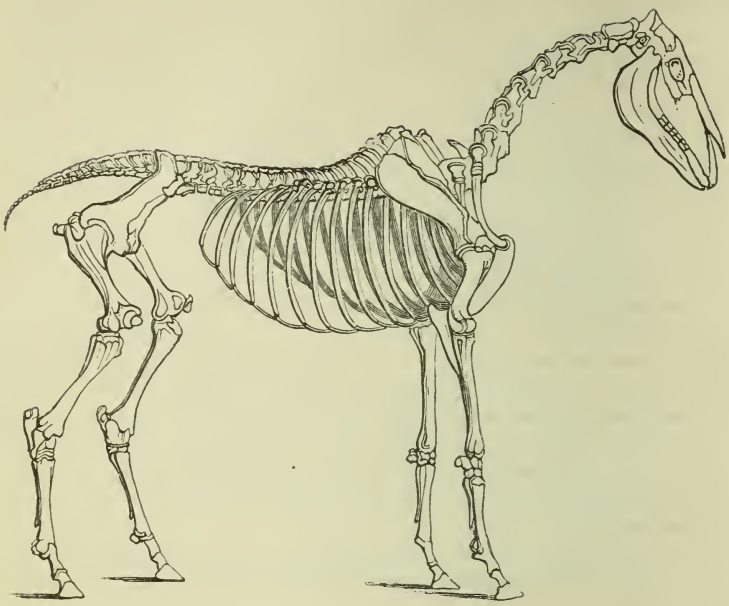
every horse shewn him, most likely,—certainly every horse four or five years old,—is fat, and therefore not in a condition for work. Dealers, by quantities of manger-meat, bruised oats, hay-chaff, &c., and by giving their horses only such little walking exercise as serves to keep their legs from filling, make the horses they have for sale as fat as they can, and for two reasons:—1st. Fat fills up the crevices, and conceals any imperfections there may be of outward form: it is the horse-dealer's putty. By it, like the coach-maker, he makes his article for sale appear more perfect, or freer from defects than it really is.—2dly. By it he gives an appearance of size and bulk to the articles, which pass for signs of strength and ability, but which, as I said before, are in reality an indication of weakness. No men are better aware of the disadvantages arising from the presence of fat than trainers and jockeys. "Such a horse is too fat to win his race," is a remark not seldom heard, even at the starting-post on the race-course; when all signs of obesity, it is expected, have—or most assuredly ought to have —vanished. How many hunters are there distressed—shall I say killed?—at the beginning of the hunting-season, or before Christmas, to what there are afterwards? A "judge," going to view a hunting stud, feels the horses upon the ribs and along their crests, and pronounces, at once, one to remain too "gross" or fat, another to have been over-reduced: his experienced eye and hand telling that in the stable which to another only becomes discoverable on actual trial.

In young horses, the *adeps* or fat is mostly deposited upon the external parts,—upon the superficial muscles,—and is, consequently, found immediately underneath the skin; but horses seven or eight years old, and upwards, are very disposed to accumulate fat inwardly—about the kidneys and bowels, and upon the belly, internally. A horse may evince very little fatness outwardly, and yet be loaded with fat "in his inside." Fatty matter deposited among the fleshy parts or *muscles* of the body, and between their fibres, renders them loose in texture and flabby in feel; the adeps occupying that space which, in the horse in hard condition, is filled by clean muscular fibre.

The good great horse is not made up of fatty substance. He has large bones, large joints, and large muscles; and in these, and these alone, consist his superior physical powers. The skeleton is of large dimensions. There is evidence, in the length of the bones and in their bold and prominent projections, of considerable leverage. The muscles distributed upon it have evidently had every advantage of action, their further power depending entirely upon their own innate bulk and composition.

The time is now arrived for us to take a view of the fabric and mechanism of

THE SKELETON OF THE HORSE.



The bones of which the body is composed, divested of their flesh or *muscle* and other soft parts, and connected together in their natural order, constitute the skeleton or osseous fabric of an animal: to this the fleshy parts are attached, by it the bowels are supported and protected, and from different parts of it project levers, by whose means, through the agency of the muscles or moving powers, *locomotion* is performed.

The contemplation of the skeleton of the horse—or, indeed, other quadruped—presents to the mind a figure too irregular to admit of any comparison save to the animal of which it once formed the framework. It is constituted of a part we call *the body*, but which is strangely deficient about the loins; supported by four columns *or legs*, and has attached to it, in front, *the neck and head;* behind, *the tail.* This is the view the superficial observer might take of the skeleton; but it is not the view which will answer the ends of science, or convey to our mind those notions of its fabric upon which must be founded our philosophy of its uses and operations. Let us commence at the *occiput* or hind-head, and we shall find a continued chain of bones, termed *vertebræ*, extending from it, forming the bone-work of the neck, and back, and loins, and tail: alto-

gether—comprehending its entire line—having something the figure of a double *ſſ* turned lengthwise and united.

An artist would say, "Why this is precisely the superior outline of a horse." *We* must regard it as the *key-stone* of the edifice—the great bond of union of the two sides or halves into one whole. It is the most important part of the structure. It is composed of no less than thirty pieces, called *vertebræ* :—seven in the neck, eighteen in the back, five in the loins, with the addition of the croup and the tail; and these united one to another, by an elastic gristly substance, to the interposition of which is ascribable that pliancy and flexibility which the *spine*—for so this chain of bones is called—in the living animal is known pre-eminently to possess. The sinking down of the back under the imposition of weight at the time that the rider mounts—the springy and easy seat the rider finds in the hollow or middle of the back, and the self-adjusting power of the spine to the various inflexions of the body, are all attributable to this property of elasticity which the vertebral chain derives from its thirty gristly inter-layers. Supposing it had been from beginning to end one undivided piece of bone, what would have been the consequence? Why that the animal could have possessed no flexibility either in his neck, back, loins, or tail, and must, therefore, have moved about upon his legs, stiff in all these parts, as though he were affected with *tetanus* or locked-jaw. As it is, there exists a little yielding, a very little, between every two vertebræ; but this, multiplied by the number of the vertebræ, gives, as an aggregate, to the entire spine a very considerable extent of flexibility. There is, perhaps, no occasion on which this flexibility of the spine is better seen than at the time a horse is twisting his head round to bite himself, or scratch his cheek with his hind leg, unless it be in the remarkable bending evinced by an ass at the time he crawls under a low rail.

The figure the spine describes in its course is that, imperfectly, of a double S, or of two *ſ ſ* of unusual lengths, placed horizontally, and united thus ∼. There appear two arcs formed by it, one at the upper part of the neck, another commencing in the back, behind the blade-bone, and running through the loins and croup to the tail. These, therefore, we may take to be the most

resisting parts of the structure—the parts most capable of bearing superincumbent weight. In some horses these arcs are more conspicuous than in others. In horses with crested necks and roach backs they are most so; and such horses, on this account, are reckoned strong and able to carry a greater load. There can be no doubt but that roach-backed horses evince the greatest power under the riders. I have experienced it myself on many occasions. It is likewise, I believe, equally true that curved or crest-necked horses have augmented power in their necks.

An attentive consideration of the figure of the spine will shew the proper place for the seat of the rider: this obviously must be the part where the animal can best support his burden, and yet not have his action in progression at all impeded. English horsemen are apt to sit in too forward a situation upon their horses; foreigners —Germans in particular—too backward. The saddle should be placed back enough not to interfere with the motions of the shoulder-blade, and forward enough for the pummel to meet the rise or summit of the withers; the girths crossing at a sufficient distance behind the elbows not to rub against or fret them in action. In the living horse there is a dip in the back, greater or less, immediately behind the withers; a place the rider upon the bare back naturally slips into for ease and comfort, and particularly if he happen to be mounted upon a rough trotter. This, Nature seems to say, is the place for the saddle.

We have looked at the arcs or arches of the spine; let us now take a view of the *dips*, or reversed arcs. There is but one, but it is a very remarkable one. It commences at the lower part of the neck, extends backward through the interspace between the shoulder-blades, and terminates where the spine emerges from behind the blade-bones. This must be the weakest part of the spine; and for this reason Nature has placed it in a situation where it cannot possibly have to support any burthen. No man ever dreamed of riding upon the summit of, or in front of, the withers. This remarkable dip, or downward curve, appears to owe its existence to the two arcs afore-noticed. Had the spine been constituted of one continued arc from end to end, the head must have been inflected downwards, without the power of elevation; vision no longer could have proved useful in directing the animal on his way; the back would have been of a most awkward form for the carriage of burthen; the cavities of the chest and belly of a most inconvenient shape and the limbs of enormous length. Had the spine been made straight from head to tail, no elongation of it, and with difficulty any shortening of it, could have been produced, the consequences of which must have been a great diminution of that elasticity and power of adjustment for which, in its present form, the structure is so useful and admirable. The beauty of the neck, the freedom of erection and depression of the head, the faculty of

looking back and turning round with equal facility and rapidity, would all have been greatly impaired by a spine either directly straight or uniformly curved: in addition to which, none of the actions of the body, in particular galloping and leaping, could possibly have been performed with the same efficiency they are at present.

The arc of the spine forming the loins and croup is completed posteriorly by the tail, which, when of its natural length, considerably extends it, both backwards and downwards. Then here is another part upon which weight may be imposed with great advantage to the animal: the tail itself will assist in its maintenance, let alone its being placed immediately above the hind limbs or posterior columns of support; and the destruction of this arc, when the burthen is intended to be borne by it, forms, there cannot be a question, a decided objection to docking. Asses, we know, with great apparent facility, and comparative ease, carry their loads upon their croups: docking, one would think, must tend to render this carriage difficult.

The *vertebræ*, or bones composing the spine, are exceedingly irregular in their figure, and remarkable principally on account of protuberances and projections growing from their sides and superior parts. The superior projections are conspicuous for their length, particularly those forming the withers. In fact, it is the length of these processes that regulates the height and fineness of the withers. Altogether, the protuberances and projections may be regarded as constituting a series of levers for the attachment of muscles, many in number and great in power, on which mainly depends the strength in action of the animal, as well as his capability as a beast of burthen.

I have already observed that the motions, although exceedingly limited between any two vertebræ, are pretty extensive in the entire spine, owing to the number of its component pieces. The spine was required to be a very strong and resistible structure; at the same time it was required to have the power of flexure and curvation, in order to accommodate itself to the various positions and movements of the body during progression; all which could not have been effected in the same piece of mechanism without a manifold division of its component parts. Whenever the motion between two bones is of an extensive or varied character, the liability to *dislocation* or displacement between them becomes great: the more completely the bones are locked or dove-tailed together, the more limited becomes the motion between them, but the more secure they are against liability to dislocation. Such is the admirable mechanism of the spine, that both these *desiderata* are insured.

[To be continued.]

THE ANCIENT HISTORY OF THE OX.

By Mr. W. F. Karkeek, *V.S., Truro.*

That which peculiarly distinguishes the character of the present age from all others that have preceded it, is the restless endeavour that exists to explain the cause of every thing, "in the heavens above, the earth beneath, and the waters under the earth." Science appears to have burst all bounds, and is aiming to comprehend the universe—and thus it multiplies fields of inquiry for all orders of mind. There is no province of Nature which it does not invade; for, not content with exploring the darkest period of human history, it goes beyond the birth of the human race, and studies the stupendous changes which our globe experienced for thousands, perhaps millions, of centuries before it became prepared and fitted for their habitation.

A century has scarcely elapsed since the most astonishing and fantastic tales were believed of imaginary monsters, such as the Monoculi, with one eye in the middle of the forehead, and of

> "The Anthropophagi, and men whose heads
> Do grow beneath their shoulders."

The Centaur, half man, half horse; the Pegasus, a winged horse; and the Griffin, alluded to by Eschylus in the tragedy of Prometheus;—

> "Thus the gryphens,
> Those churl and ranc'rous dogs of Jove, avoid
> The Arimaspian troops, whose frowning foreheads
> Glare with one blazing eye."

That such should ever have been believed would appear almost impossible; and yet, strange as it may appear, these old tales of the ancient poets have no sooner ceased to be credited, than they have been superseded by stories stranger still,—of gigantic monsters that one time walked the earth or swarm'd the lake,—not dim and shadowy phantoms of the imagination, but in all the reality of form and structure; leaving their skeletons to be disentombed in after ages from their rocky sepulchres, as evidences of a former existence:—so certain it is that truth is stranger than fiction.

On no subject has greater ignorance prevailed for a long period than that of the creation of animals. Accustomed to consider the whole of Nature as having sprung out of nothing, in the course of a few days, at the Divine command, and erroneously deeming this belief as essentially connected with the funda-

mental articles of the Christian faith, it is not to be wondered at that it should be believed so long, and that, when Hutton first announced that the earth afforded no trace of a commencement or any prospect of an end, he should have been assailed as an infidel. But time effects changes in the moral as well as the physical world, and such a belief is now considered no way obnoxious to a true interpretation of the sacred text. The vast antiquity of the globe is now as fully demonstrated as its spheroidal figure; and the lapse of ages which must have occurred in the completion of a geological epoch is clearly proved by a glance only of the different fossil genera and species in their respective strata, by the order of which we are enabled to calculate, to a certain extent, the number of revolutions the globe has undergone.

As, in the history of the Horse, it is our intention to render some of the geological phenomena subservient to unravel the early history of the Ox—his story being antecedent to all human history and tradition—the strata on which his remains have been found are the only manuscripts by which it can be elucidated: and as every author is at liberty to select the spot on which his hero shall "strut his hour upon the stage," provided he is a little particular as to the place and date of birth, so do we choose the soil of France whereon he shall commence his career and run his race. Unfortunately, there was no registry-office kept in those days; yet, notwithstanding this, we hope to furnish our readers with tolerably correct data as to his birth, though we may not be able to discover the exact locality where he was first ushered into life. We shall also introduce to them some of our hero's acquaintance, by which they will be enabled to judge in some measure of his character—for the character of an individual is frequently determined by the company he keeps.

Our readers will now have the goodness to recollect that, in our ancient history of the horse, we described his fossil remains as being found in immense numbers in the diluvial strata, which must be considered as totally distinct from the regular strata, consisting of beds of loam and argillaceous sand, &c. Now, between this and the chalk formation are strata filled with fresh and salt-water productions. These mark the irruptions and retreats of the sea to which portions of the earth have been subjected posteriorly to the formation of the chalk. Mr. Lyell has recently proposed a fourfold division of this formation, commonly called the tertiary series:—Eocene, which implies the commencement or dawn of the existing state of the present animal creation; Miocene, which implies that a minority existed; older and newer Phocene, by which is understood that the majority

of the shells belong to the present species, the recent species in the newer being much more abundant than in the older division.

Now it is during the miocene period of the tertiary deposits, containing an admixture of extinct genera of lacustrine mammalia of the first or eocene series with the earliest forms of genera existing at the present time, that the Ox was introduced into the world.

But, previous to introducing our hero in *propria personâ*, we will just take a glimpse of the period which immediately preceded his birth,—the eocene period.

The seas and lakes of that remote period occupied areas which are now above the waters and rocks; and mountains, hills and valleys, streams and rivers, diversified the surface of the countries, which are now destroyed or entirely changed, and whose past existence is revealed by the spoils which the rivers have accumulated in the ancient lakes and deltas. The vegetables that diversified the surface were forests of oak, elm, and beech,—firs, pines, and other coniferous trees,—palm-tree firs, and the principal groups of modern floras; while the waters, both salt and fresh, teemed with the few simple forms of vegetable structure peculiar to the climate.

The changes in the relative level of the land and sea during this epoch were numerous and extensive, and one region in particular still preserves traces of its original physical geography, the lowermost lacustrine deposits in Auvergne, in which are embedded the successive generations of aquatic insects, crustacea and mollusca, with the bones of crocodiles and turtles in immense numbers; about ten species of birds and fifty species of mammalia, among which the most conspicuous are the palæotherium, anoplotherium, lophiodon, anthracocherium, cheroptamus, and adapis. The nearest approach, among living animals, to the form of these extinct quadrupeds, is found in the tapirs that inhabit the warm regions of South America, Malacca, and Sumatra, and in the Daman of Africa.

It would appear as if the animal kingdom was thus early established on the same general principles that now prevail; but as the bones of all those animals are accompanied by the remains of reptiles such as now inhabit the fresh waters of warm countries, as well as by the leaves and prostrate trunks of palm-trees, we cannot but infer that the temperature of France was much higher then than at present. This epoch, which is considered a long one, was perfectly tranquil; that is, free from the volcanic eruptions which evidently preceded it. But a change came over this scene; for either the district which we have been describing became elevated, or, what is probable, by the sea

retiring, a new system of lakes was established. The country became clothed with forests, and inhabited by large deer, rhinoceroses, hippopotami, and hyenas; and, mixed with those earliest forms and genera which exist at the present time, were these lacustrine mammalia which we have just mentioned of the eocene period; and a gigantic herbivorous animal, called the denotherium, measuring from fifteen to eighteen feet long, possessing a head a yard broad and a yard wide; also the megatherium, or fossil sloth, whose bulky size may be inferred by a tail six feet in circumference, and, like the rhinoceros, armed with a coat of mail, and extracting, with a single delve of his talons, the roots of gigantic trees; the mastodon, allied to the elephant; the hippotherium, allied to the horse; the felis, or cat, as large as a lion; the machairdos, allied to the bear; and the agnotherium, allied to the dog, as large as a panther; these were among the countless inhabitants that were cotemporaneous with the hero of our tale,—the Ox.

The nearest, and perhaps most intimate, companion that he possessed was an animal that we have not yet mentioned—the Bison. So close a resemblance, indeed, did he bear to him, that by many persons of late years they were supposed to be one and the same animal, but at the period to which our history refers they were easily recognised. We shall have occasion to notice these differences by and by; in the meantime, having already introduced the hero himself, we will proceed to describe him.

In those days he was known amongst his acquaintances—and we have already introduced them to your notice—by his proper name of Urus, which has been changed of late for the sobriquet, Ox; and it is generally acknowledged that at that time he was a most formidable character, being a perfectly wild and savage animal. Some of his descendants may now be seen in one or two of the northern parks, the last remnants of his wild race. He was also of an enormous size, possessing a head full one-third larger than the domesticated urus, and mounted with monstrous horns.

In mentioning only those gigantic monsters, the cotemporaries of the ox, the mind naturally reverts to the remote period when the face of nature, and plants, and animals, was in some measure different from what it is at present. Palms, reeds, and many other kinds, are met with in the strata in which the remains of these animals have been found; indicating, upon the whole, a vegetation not exactly of tropical climates, but rather such as now clothes the countries bordering on the Mediterranean.

But the whole scene again became changed—hundreds of pent-up volcanos suddenly burst forth, and spread ruin and desolation over the land: the whole of the living population is swept

away or entombed in the volcanic products. Cuvier describes some thirty species of animals that were found in the volcanic tofa—viz., nine ruminants, six pachydermata, one edentatum, twelve carnivora, and two rodentia.

Ages rolled by, and the mists of the mountains and the rain produced new springs, torrents, and rivers. A fertile soil gradually accumulated over the cooled lava, and beds of scoriæ, to which the sediments of the ancient lakes, borne down by the streams, largely contributed. Another vegetation sprung up;—gigantic deer and oxen are again found on its surface, having for their cotemporaries the horse, the bear, the wolf, and the fox, with the elephant, the hyena, the rhinoceros, and the tiger. This period is supposed to have continued for a long time also: but changes were still going on; and volcanic eruptions occasionally succeeded, and continued, geologically speaking, until a comparatively recent period. The temperature of the climate, too, became colder, and many of the last named animals passed away, and were succeeded by the sheep, the goat, the dog, and the wolf; and, lastly, the earliest race of mankind took possession, who soon began to exterminate those whom they could not subjugate to their dominion.

We have confined ourselves hitherto to the soil of France, being the spot which the genius of Cuvier has again, as it were, called into existence. But it has been already proved that the same formations extend largely over the whole world; we have every reason, therefore, to believe that the ox species must have extended, as it does now, over a very large surface.

Ere we conclude, we will endeavour to give some authority for our opinion that the ox must be considered as belonging at one time to a different zoology from many of his present cotemporaries. M. Desnoyers was the first that noticed the remains of palæothereum and lopheodin in the marine formations of Touraine, mixed with bones of the tapir, mastodon, rhinoceros, &c. Cuvier states—and his is no mean authority—that he found the remains of the ox in the calcareous fresh-water formations of Orleans which incloses the debra of those extinct pachydermata. Again, in the miocene strata of Touraine and of Darmstadt, there is, according to Mantell, an intermixture of the remains of the ox and the mastodon with the palæothereum and anaplotherium. Mr. Murcheson also discovered, in Bavaria, bones of those extinct animals, mixed with the mastodon, rhinoceros, and hippopotamus, &c. in lacustrine deposits, associated with fresh-water shells.

This forms a very material part of the history of the ox, since his remains are found embedded in deeper strata, and appertain-

ing to an age far more remote than many of his present cotemporaries; and we therefore consider ourselves justified in coming to the conclusion, that he was the first animal belonging to our domesticated mammalia that was created.

One striking feature in the events that we have passed in review before us—and our observations have extended over a period of vast duration—is, that forms of life prevailed which gradually became extinct, and were succeeded by others, some of which also passed away; and if we were to go still further back, and trace the varying types of being from the earliest ages—from the trilobite to the whale, and from the iguanadon to the elephant—we should find a gradual approach to the present condition of organic existence, the grand line of separation between the present and the past being the human race. From this period, in proportion as man has extended his domain over the earth, many races of animals have been either exterminated or modified by his caprices or necessities.

[To be continued.]

PLEURO-PNEUMONY AND RUPTURED STOMACH.

By Mr. W. A. Cartwright, *Whitchurch, Salop.*

About 11 A.M. on Sunday, the 24th of May, 1841, I was summoned to attend a valuable travelling stallion, called Bolivar. It appears that the previous Friday and Saturday were very wet, and he was out on those days a great deal. On the Saturday night he did not feed very well. On the next morning he started for this town, but, after having gone a distance of seven miles, he was found to be very ill—indeed, the man had difficulty in getting him so far, as he walked very badly, had not his usual vivacity, and his respiration was considerably increased. Three quarts of blood were taken from him. After a time he proceeded on his journey, a distance of two miles and a half more, and arrived here between ten and eleven o'clock.

Symptoms.—Those affecting the air-passages, viz. increased respiration—legs and ears cold—a cough—and evident distress. The weather being very hot, and the horse tired and recently bled, I waited in expectation of his getting a little better; but when, although night was come on, and the air much cooler, he got no better, I abstracted six quarts of blood from him, gave him some aperient febrifuge medicine, and blistered his throat. I had given him a febrifuge ball as soon as he came in.

Monday, 25th.—He was more composed in his breathing, but

he still coughed considerably, and there was a rattling noise in his trachea. The aperient medicine was operating more strongly than I expected or wished. After the purging had ceased, he continued the following five or six days with his legs, ears, and body very warm and comfortable, but his respiration was too quick. It was that of a broken-winded horse, and, in a measure, as if there was effusion in the thorax. The disease had clearly assumed the character of pleuritis.

On the 29th his respiration and pulse were quicker, and I abstracted nearly five quarts of blood, which was very much buffed. The lymph was tougher than I had ever felt any. I also blistered the sides of the thorax. This bleeding relieved him. Most of the time he was taking the potassio-tart. of antimony, digitalis, and, occasionally, a dose of the ext. of belladonna, and with apparently good effect. His kidneys were acting rather severely. His pulse now became very much intermittent and slow, ranging between 25 and 30—the appetite was bad, and the animal rather debilitated ; of course, the medicine was discontinued, and an opposite plan of treatment carefully adopted. We now gave small doses of tonic medicine, and any thing he would eat.

On the 3d of June he had a cold fit. I gave him ℥ij of the spt. æth. nit., well clothed him, and rubbed a stimulating liniment on his legs and ears ; and in the course of a few hours he rallied, and got warm and comfortable.

The *4th*, *5th*, and *6th*.—He had repeated small doses of tonic and aperient medicine, his appetite continued indifferent, and his pulse was very intermittent. One day he lay down for a few minutes, most probably from some irritation in the bowels, but it passed off.

In the night of the 6th of June, Mr. Lucas, of the Liverpool Repository, came over to see him, with whom I spent two or three hours very profitably, and had, indeed, connected with our profession an intellectual treat. He found him much better than he expected, though he was of opinion with me, that there was effusion in each side of his chest. He strongly recommended me to push the tonic plan to its utmost extent, and we decided upon giving him, three times a-day, pulv. zingib. pip. Jamaic. and pulv. rad. gentian. āā ʒij in about a pint of ale and gruel; again to stimulate his chest and breast, and give him any thing he would eat. This treatment was adopted on the 7th and 8th, and he was decidedly better, especially on the 8th, when he fed on clover, hay, and vetches, more freely than he had since he had been ill, was more lively and active, and there was every probability of his getting well.

About eleven o'clock at night we left him, and all seemed well; but on the following morning he was very uneasy. He had been tumbling about the stable, and had nearly pulled off all his clothes. He was not at all swollen, nor was he purging. I gave him anodynes at intervals, but they did him no good. On the contrary, he became worse and worse. Occasionally, about half a pint of some dark-coloured fluid, mixed at times with masticated grass, &c. rose up the œsophagus, and issued through his nostrils.

There appeared no violent act in this vomition, but a simple regurgitation, and this continued until within a short time of his death, which took place about 5 P.M.

The symptoms in the course of the day were in a great measure those of enteritis, such as getting up and immediately lying down—rolling over—occasionally pawing with his fore feet—looking at his sides, but especially at the off one—wandering about the box—looking very anxious—voiding a great deal of flatus, and, as death approached, excessive perspiration—the nostrils much reddened, and increased respiration. As his end approached, the respiration became more calm; until, after standing for some time, he suddenly fell down, struggled violently, and died in dreadful agony. About two o'clock the next day, Mr. W. Jones, a trainer, from Delamere Forest, and who had the horse for the season, Mr. Dunn, V.S., and myself, made a

Post-mortem examination.—He was not excessively swollen. On cutting open the abdomen, we immediately discovered that there was a rupture, and that a portion of masticated food was interspersed amongst the intestines, and entangled in the omentum. On removing the stomach, we found that on one of its sides, near the greater curvature, there was a rupture of the peritoneal tunic, of at least a foot in length; but the opening through the other coats was not above two inches in length. In other respects the stomach was perfectly healthy, and there were not above six pounds of soft masticated food in it, and there was but little that had escaped into the abdomen. The intestines were somewhat inflamed, but not to any great degree. The thorax was then examined: each side of it contained about three quarts of serum, but there were no adhesions, and but few marks of inflammation on the surface of the pleura. The lungs were a little congested in a few places. All the other parts of the body were sound.

Observations.—This case gives rise to a few observations that may not, perhaps, be all unprofitable, as I had the animal in my own stable. In the first place, I am inclined to think that it was a case of pleuro-pneumony, but assuming on the next day,

and continuing to exhibit for five or six days, and in a very marked manner, the characters of pleurisy. The legs, ears, and body were perfectly warm and natural; but the respiration was too laboured, and assumed more the action of a broken-winded horse, but in a quicker degree. His pulse also continued too quick, and was always very perceptible at the jaw.

After the first day or two, I discovered that the pulsatory action of the heart was very distinctly felt at the opposite side of the chest, and this continued so most of the time, but, certainly, it was not so distinct in the last week as during the previous time. There was also a quivering of the muscles about the breast and the sides of the chest, low down. I repeatedly applied my ears to the chest, as, from the symptoms, I fancied there was water in it, and I could hear a slight gurgling towards the posterior inferior parts of the cavities, but mostly on the off side. Mr. Lucas was of my opinion as to this. It certainly was not very audible, and, if great care was not exercised, the sound of the intestines, which could be distinctly heard at times, might be mistaken for it. In order, certainly, to ascertain the real state of the case, it is quite necessary that it should be in the dead of night, or when there is not the least noise.

Whether there was a greater quantity of fluid in the chest during the first eight or ten days, I cannot determine; but I am inclined to think that there was, as the respiration was more laboured. About the middle of the time of his illness he was apparently uneasy, as he lay down once or twice at his length, and seemed in pain; but this passed off, and, with this exception, he stood all the time.

A question naturally arises, From what cause, and when, was the stomach ruptured? That it was ruptured from a quantity of gas derived from the vetches or food he had eaten cannot be doubted. Most likely it was from the vetches, as it could not be from the large quantity of food in *substance* that he had eaten. Was it ruptured *after* death? I think not, as there was not sufficient disease anywhere else to account for the symptoms during life.

Mr. Percivall, in his "Hippopathology," has been the first English author that has drawn our attention to the occasional occurrence of vomition in this disease; not that he considers it as a pathognomonic sign, though he justly considers it, in company with others, as one throwing much light upon the nature of the case. From the histories on record it certainly would appear that it is not always present; and Mr. Pritchard, of Wolverhampton, has stated (see Veterinary Medical Proceedings, session 1840-41, page 348) that he never yet has met with it in any case. Mr.

John Field, on the contrary, never saw a case without it. I have opened only three cases where a ruptured stomach existed, and in two of them there had been vomiting. In one of the cases, on introducing my hand up the rectum, I could distinctly feel, in addition to the rupture, some extraneous matter between the intestines, and which was found to consist of the escaped food. There was a portion of it also in the scrotum, giving it the appearance of hernia; indeed, before I opened him I fancied I had mistaken my case, and that it was one of strangulated hernia.

[An omission has been pointed out to us—a strange and inexcusable one. The name of Mr. Cartwright is not attached to his paper on the Diseases of Cats, inserted in our November number, page 676. The writer of this note was the last person on earth to have done this intentionally. His earnest recommendation has ever been to "cast round the world an equal eye, and feel for all that live." It shall not occur again.]

Y.

FATAL PERFORATION OF THE LUNGS, DIAPHRAGM, LIVER, AND COLON, BY THE SHAFT OF A CART.

By Mr. W. Field, *V.S., Oxford Street.*

A bay mare, at six o'clock on the morning of December 11th, while going along Oxford-street in an omnibus, on its way to the Paddington railroad station, was met by some butchers in a cart, the shaft of which passed in an oblique direction through the muscles of the off side, breaking two ribs, and entering the chest. The opening was so large as to allow a portion of the lung to protrude. The mare evinced no particular restlessness or pain, only occasionally shifting one or the other of the fore legs. The belly was much distended, and her respiration quick and difficult. No pulse could be detected, and the membrane of the mouth and eyes was blanched.

I considered that she had not long to live, and that not much in the way of treatment could be effected. The wound was sewed up, and an anodyne draught given. She died in two hours after the accident.

On examining the body, I found that the shaft had passed through part of the lung, diaphragm, and liver, and entered the colon: much of the contents of this viscus had escaped into the cavity of the belly. There were also three parts of a bucket of

blood, and a great quantity had escaped from the external opening.

I come to this conclusion—that the excessive hæmorrhage must have operated as a sedative, and thus allayed the pain which I should have inferred would naturally have resulted from such a serious accident.

OBSERVATIONS ON FIRING AND THE SUBSEQUENT TREATMENT.

By C. Percivall, *Esq.*, *V.S.*, *Royal Artillery.*

The introduction of an operation termed "subcutaneous periosteotomy," together with the strangely extended application of the seton, recommended at the Royal Veterinary College as a substitute for the actual cautery, induce me to offer a few remarks in defence of this highly useful and important operation of our forefathers. I feel satisfied that the more refined surgical operations of the present day are not likely, with experienced veterinarians and sporting men, to supersede the occasional but severe use of the iron. Although I should be ever anxious to relieve the sufferings of the brute creation, and especially those of an animal who contributes so largely to our pleasures and comfort, with as little torture to him as possible, daily observation assures us that the only thing which can restore, for a few additional seasons, the stale, and, to a certain degree, stumped-up hunter or hack, is the judicious and timely application of the actual cautery: all the argument that can be made use of will never convince the old sportsman that this can be accomplished by other means; nor will the experienced veterinarian ever take up the periosteotomy knife to the exclusion of the cautery. Indeed, since the attempts to banish from veterinary practice this highly useful auxiliary, it has been taken up and warmly advocated by some eminent members of the medical profession in Ireland, and frequently had recourse to in cases of sciatica or chronic rheumatism. A small flat iron, about the circumference of a shilling, made red hot, is applied lightly in the course of the nerve, with decided benefit. I have heard of the kitchen poker—rather a rude instrument—having been applied for the same purpose, after which we need not be so nice about making use of that "barbarous and unsurgical instrument"—as it has been called—the firing-iron.

I have, from time to time, witnessed such beneficial results from its application, that my ears are with difficulty made

to listen to any arguments opposed to its use; and I believe there are very few *experienced* veterinarians who are not of the same opinion.

A circumstance prompts me to offer to the notice of your readers a few observations on the subsequent treatment of firing, upon which the credit of the practitioner as much depends as upon the performance of the operation itself. Formerly, the after-treatment of firing, not only with those of the old school, but with the more enlightened practitioners, was a very simple affair; and so it continues at the present time with many persons, indeed so much so as scarcely to be considered in the light of a remedial measure. A little common oil or lard being rubbed on the fired part, the horse is turned into the grass field, leaving it for nature to perform the rest; but from the annoyance of flies, &c. he is often induced to bite or excoriate his legs, and permanently blemish himself. Should not this take place, yet frequently, from the want of proper attention, the legs being from time to time plastered with mud, together with the discharge becoming dry and hard, we have pretty much the same thing.

In the early part of my professional life, being in a sporting country, I was frequently called upon to perform this operation; and, in accordance with the general custom, I paid very little attention to my patient subsequently, and often had great cause to be dissatisfied with the appearance of the animal afterwards, notwithstanding I had taken the greatest pains in the operation. It was not until I had experienced much annoyance from the blemished and unsightly condition of the legs that I begun to think seriously on the subject, and to see the necessity of paying more attention subsequent to the operation than I had hitherto been in the habit of doing. The loss of hair, and consequent blemish and disfigurement, which I had frequently met with in fired and blistered horses, I for some time attributed to the presence of some corrosive ingredient in the blister, knowing it to be a common practice with many persons to blister very soon after the operation, and, with some, even at the time of operating: however, experience soon convinced me that I was not altogether right in my conjecture, finding that the same thing took place from firing without any subsequent blistering, and even from using a blister which I knew to be properly prepared. This I found to proceed from the discharge issuing from the cauterized or blistered surface becoming dry and hard, adhering so firmly to the hair that the confined matter or pus underneath produced, in many instances, deep ulceration, frightful sores, and consequent destruction of the roots of the hair; circumstances which induced

me to adopt a different mode of procedure, in order to prevent a recurrence of the evil, and relieve myself from the too frequent annoyance I had experienced on this head.

My mode of treatment, although simple, will be found to be very efficacious in preventing the disfigurement above alluded to. At the expiration of a week from the time of operating (or sooner if the legs have ceased to discharge, and are becoming dry and hard), I make my patient stand in a tub of warm water, or foment the legs for an hour and a half, or two hours, every day; carefully removing from time to time the sloughs and scurf, or discharge, and applying a little common oil or lard, which it is of consequence to do before the surface get quite dry, in order to keep the parts soft and pliable, as well as to facilitate the removal of the sloughs and scabs, or inspissated discharge. In the course of a week, under this treatment, the sloughs will separate.

In the event of any superabundant granulations, I have recourse to the sulphate of zinc, or sulphate of copper, in solution, &c.

When perfectly healed and free from scurf, I prefer a loose box to the grass field for a fortnight or three weeks, making use of wet bandages, physic, &c., occasionally leading my patient out to stretch his legs, as circumstances may dictate.

The system of turning out in a week or ten days after firing or blistering—the practice of the old school—is, in my opinion, decidedly objectionable. A loose box, together with the treatment beforementioned, until the inflammation attendant upon the operation has subsided, is to be preferred; for, should the animal be placed in a situation which affords him an opportunity of taking violent exercise while the legs are in an inflamed state, or before they have recovered their wonted tone and strength, he is likely to suffer from, instead of being benefitted by, the operation. I have seen many horses that had been blistered and turned out during the summer months taken up with their legs thicker than before turning out, which I could attribute to nothing but their having been driven about by their companions, tormented by the flies, and made to exert themselves when the ground was hard, and at a time when the legs were not in a fit state to bear such exertion.

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ON RABIES, OR CANINE MADNESS.

By Professor Dick, *Edinburgh.*

[Pressure of collegiate and other business having prevented Professor Dick from sending his promised communication to the new series of The Veterinarian, we insert an extract from a valuable publication of his, not a month old, entitled "Manual of Veterinary Science." The subject is an interesting one, and the views of the Professor clearly and consistently stated, although materially differing from those of many of us on the south of the Tweed.]

Our views respecting the highly interesting disease of rabies, or canine madness, are not a little peculiar; but, being the result of considerable observation, and leading, as we conceive, to most important and beneficial results, we will neither conceal nor compromise our decided convictions.

We hold, then, that rabies is essentially an inflammatory affection, attacking peculiarly the mucous membrane of the nose, and extending thence through the cribriform plate of the ethmoid bones to the anterior part of the brain, so giving rise to derangement of the nervous system as a necessary consequence. This train of symptoms, we consider, constitutes mainly, if not wholly, the essence of an occasional epidemic, not unlike some forms of influenza or epizooty; and the bite of a rabid animal is not, to another so bitten, the exciting cause of the disease, but merely an accidental concomitant in the prevailing disorder. Also the disease hydrophobia, produced in man, is not the result of any poison introduced into his system, but merely the melancholy and often fatal result of panic fear, and of the disorded state of the imagination. Those who are acquainted with the effects of sympathy, and imitation, and panic, in the production of nervous disorders, will readily apprehend our meaning; and if our view be correct, the immense importance of disabusing the public mind on the subject is apparent. This is a task which we hope one day to accomplish. But, in the mean while, considering the vast responsibility of promulgating these views without the utmost certainty as to their truth, we shall not press them; nay, we shall, to any greater extent, withhold them at present, and shall now do all the justice our limits allow to the elucidation of the prevailing, and what is generally considered the established, pathology and history of the complaint.

It is generally alleged that the complaint arises spontaneously only in the canine and feline species of animals, including the

dog, fox, wolf, and the domestic cat, and that from them it is readily communicated to others, namely, horses, cows, sheep, and man. It is frequently stated that these last have not the power of communicating the complaint to others; but Mr. Youatt mentions, "that several farriers have lost their lives from being bitten or scratched in the act of administering medicine to rabid horses:" and Magendie and Breschet have taken the saliva of a man who was labouring under hydrophobia, and have therewith inoculated healthy dogs, which, they assert, became rabid and bit other dogs, so spreading the contagion. Though the disease has received its name from the horror of water exhibited by man, yet the symptom seems confined to him: rabid dogs lap freely, and sheep affected with the disease are rather greedy of water. It is a great mistake to suppose that every rabid dog must be wild and furious; on the contrary, his faculties are not particularly disturbed. There is no want of his usual sense, but great irritability; and, for a time, he knows his master's voice, and obeys him.

The early symptoms in *dogs* are usually some peculiarity of manner, and some strange departure from their usual habits. In many instances, the peculiarity consists in a disposition to pick up straws and other small objects. Others keep licking another dog, or cold iron, or stones; and there is often a strong antipathy to strange dogs. As the disease advances, they bite those dogs with which they are associated, and, lastly, the persons round them, though this only in a moment of irritation. There is also a peculiar change in the voice. In the *horse*, the symptoms are such as the following:—The animal will go to work apparently well; all at once he will stop, tremble, heave, paw, stagger, and fall. Almost immediately he will rise, draw his load a little farther, again stop, look about him, and again fall. The progress of the disease is rapid. The animal kicks and plunges in the most violent manner; often attempts to seize and bite other horses and the attendants, and will level to the ground every thing before him,—himself sweating, snorting, and foaming amid the ruins. Palsy of the hind legs is apt to supervene, the thirst is excessive, and the act of swallowing apparently difficult. The disease rarely extends beyond the third day.

On dissection, there is usually found inflammation at the back part of the mouth and nose, and at the top of the windpipe, the origin of the spinal cord, and frequently in other places.

Dogs are much more susceptible of the disease than man. Of twelve dogs and four men bitten by the same mad dog, every one of the dogs died of the disease, while the four men escaped.

The interval between the infliction of the wound and the invasion of the symptoms varies considerably, both in man and the horse. The mean average is from three to eight weeks.

As to the treatment, we would first of all state frankly, that, as to cure, after the disease has manifested itself, none is recorded. Hence the importance of prevention, and that mainly by the speedy and complete excision of the wounded parts. At the moment the animal is bitten, no time should be lost in endeavouring to get rid of the poison. Free washing may do something, and after this a firm compress between the wound and the heart, until a veterinarian or some competent person is procured who should excise freely, and apply caustic. Copious venesection has proved the most soothing remedy; and with a hint from the experience of Magendie we must close.

This physiologist, knowing the influence of largely substituting water for blood in the circulating system, tried the experiment on a mad dog that was in a furious state, and that instantly became tranquil, and so continued for five hours. Again he injected one pint of water at 100° Fahr. into the vien of a man's arm: directly the patient, from being highly rabid, became tranquil, and the pulse fell from 150 to 80 in a minute. The convulsive motions ceased; he drank water without difficulty, and continued to improve until the fifth day. In another case, death followed, as in this; but at the moment of experiment there was a great and sudden change for the better. The patient lived eight days after the injection, and died, possibly from another complaint. In attempting this treatment, the veterinarian requires unusual dexterity, as well as caution.

THE VETERINARY ART IN INDIA.

Communicated by Mr. T. Mayer, *sen., V.S., Newcastle-under-Line.*

Having accidentally met with a small elementary treatise on the veterinary science, containing observations on the pathology, physiology, and diseases of the horse, with a description of the mode of shoeing adopted by the British cavalry for preserving the natural functions of the foot, by Mr J. Grellier, surgeon, published at Madras, in the year 1802, I shall, if you consider it worthy of your pages, send you from time to time the whole, or greater part of it, as a matter of curiosity; in the first place, issuing, as it has done, from the Indian press, and being the only veterinary work extant having its principles of practice founded upon the

Brunonian theory, a theory or doctrine which has justly become obsolete, after having been keenly tested by the medical world, and creating in its day no little excitement and rancorous feeling among the professors of the leading medical schools of Europe.

It will also be found valuable to the junior part of the profession—particularly to those who may enter the Indian service—not only from the sensible and shrewd observations it contains upon the diseases of the horse, modified as they are by an Indian climate, but likewise from affording useful information relative to the doses of drugs which the animal frame of the horse will bear with impunity under the effects of so hot a climate.

I am, my dear Sir,
Your's truly.

Introduction.

"The irritable fibre being the same in all organized nature, diseases and their remedies will, of course, be the same for all organized beings. There will, then, be no distinction between medicine, farriery, and agriculture; but all these sciences will be confounded, and become one, under the general name of Universal Physiology."—*Girtanner on the Laws of Irritability.*

When the knowledge of medicine shall have attained that perfection which many of her sister sciences have done—when it shall be reduced to one general system in universal practice, and the medical world, divested of prejudice, shall direct their views to nobler and more philanthropic aims than individual interest, then the study of any new branch of medicine, and its dissemination for general utility, will be a grateful employment. At present, every addition to our science is treated as an innovation, and instead of being protected and fostered, it has to overcome every obstacle which prejudice can oppose. Thus, the veterinary science had to encounter many difficulties which arose from bigotry and interest. The most respectable and independent part of the medical profession assisted the rise and progress of a useful science,—while the inferior class were offended, that persons whose practice had been principally directed to the brute creation should be dignified with diplomas, and the appellation of surgeons.

Veterinary science, properly speaking, is the study of all animated nature,—the anatomy and diseases of mankind are alike the subject of our investigation, with those of the whole brute creation. A veterinary surgeon must attend the lectures of professors on human anatomy, physic, surgery, chemistry, and pharmacy, independent of the more immediate study of the diseases

of horses in the Veterinary College; and although the superior value and utility of the horse over the rest of the brute creation makes it engross so much of the science, still the whole animal world is equally the subject of his profession.

It is scarcely worth noticing, that interest has created many enemies among the farriers, &c. of England, who think the veterinary science may deprive them of a profession which they have so long erroneously practised. Bigotted and confined to a few recipes which they received from their fathers, they exerted their influence to prevent the propagation and practice of the veterinary principles, and among the peasants of the more remote parts of England they, no doubt, frequently succeeded. But when it shall be known that the diseases of animals, whatever form they may assume, must have the same causes as in the human subject, and are relieved by a similar treatment—when this simple truth shall be generally received, prejudices will be done away, and veterinary science, like the practice of physic in the human subject, will be universally received and adopted.

The art is yet so much in its infancy as scarcely to have afforded a single publication of its principles. The only one I have seen is by Mr. Coleman, on the structure of the foot, and the manner of shoeing recommended in order to preserve its natural functions; but I understand there is a second volume very recent from the press on the anatomy and diseases of the same part. These are the only books on the subject of which I ever heard, and this scarcity was my principal inducement for undertaking the present work.

Every one will, I believe, acknowledge that no art was more defective than that of the treatment of diseases in horses before the British government gave it their protection, and rendered the study respectable by giving the surgeons of this branch of cavalry duty a commission.

A College, previously established under the direction of Mr. Coleman, the professor (whose ingenuity and labour in advancing veterinary knowledge is too well attested to need any encomium from me), soon afforded very ample scope for investigating the anatomy of the horse, and that with so much success, that considerable progress has been made in physiology, or the functions and properties of parts. This is conspicuous in the foot of the horse, the functions of which were never before suggested, and the consequence of this want of knowledge was demonstrated in the method of shoeing the farriers pursued, which was on principles diametrically opposite to nature; nor could the most ingenious have discovered a mode of shoeing more effectually calculated to pervert the structure of the foot.

In England the feet of horses certainly suffer more than in this country; which I imagine proceeds, in a great measure, from the foul stables and litters on which the animal stands in England. What still further induces this opinion is, that the horses in the country parts of England are not so liable to bad feet as those of London, where the stables and litters are more foul.

[To be continued.]

ON BLOOD SPAVIN, SO TERMED.

By Mr. F. King. *sen., V.S., Stanmore.*

Believing that the operation of tying the saphena in blood spavin is not generally practised, and though I am rather sceptical on points where auxiliary means are resorted to, yet I have found, or *fancied* that I have found, such beneficial results from it, that I could not help throwing together these few rambling lines.

The authors which I remember to have, in days of yore, consulted on the subject, and among them were Soleysell, Gibson, Bracken, and John Lawrence—all talk of tying up the vein; but they seem to me to write on the subject as if they had adopted the dicta of those who had preceded them, their descriptions of the complaint being rather confused; and they talk of tying the vein above and below the hock, and that a consequence of this would be, the vein (so inclosed by the ligature) sloughing away. All seem to consider it to be a disease of the vein.

Mr. Blaine appears, I think, to take a much more correct view of it, by considering a distended bursa as the more immediate cause; yet he recommends tying up the vein, opening the tumour, and evacuating the contents, and allowing the sac to slough away.

When I was a very young man I have said, What can that superficial vein have to do with *distention* of the *synovial capsule?* (which appears to me a tolerably correct definition of the complaint), and I consequently neglected the operation. In after years, on many occasions, finding the common treatment—blistering and firing—not succeed to my wish, I resorted to ligatures; and, in conjunction with superficial stimuli, I have been so pleased with the attending result, that they have continued to be a part of my treatment for the complaint for some years.

I merely cut down on the vein from two to three inches above

and below, and pass a double ligature round each exposed portion of the vein, including about one inch between the ligatures. I then divide the vein between the ligatures, and leave the ends hanging out of the wounds. I subsequently blister, and sometimes fire. Of the benefit I am satisfied—as to the "how it is brought about," I am not. Can it be by producing a new direction of the venous circulation, and thereby giving more power to the absorbents? I am at a loss to account for the fact of which I am so satisfied.

At a future period I, perhaps, may venture to embody some of my thoughts on this subject, as I am inclined to think that in young horses, especially, the cause is more frequently constitutional than accidental.

CONSULTATIONS.

No. XXIV.

A singular Disease in a Cow.

The following is the history of the cow whose bladder I have sent you for your inspection, it being such a case as I have never seen before, or even heard of.

On the 21st of April she was attacked with the then prevailing epidemic in a most acute form, and she vomited her cud for three days; the complaint, however, yielded to the usual treatment in about five or six days, when she fed and ruminated as she was accustomed when in perfect health.

On the 30th she was suddenly attacked with stertorous breathing, and a total disinclination to move. ℞ Bleed, and give opening and fever medicine. The blood drawn off presented the most curious appearance, it scarcely having any colouring matter in it, and the greater part of it did not coagulate. She was bought of a farmer who lives on the side of Charnwood Forest, near to Newtown Lenford, whose cattle, owing to some herb that grows on the farm, are subject to red-water of a peculiar kind. In some animals it stops spontaneously; others, even when removed from the farm to a distant part of the country (where this complaint is not known), with small intermissions, void it the remainder of their lives. The present owner of this cow has bought several which have done so. No hope being now entertained of he rrecovery, she was consigned to the butcher. She had been stall-fed on turnips, &c., during the winter; but, owing to the com-

plaint (red-water), was not so fat as she otherwise would have been.

Post-mortem examination.—Encysted tumours, containing water as clear as crystal, covered the lungs. The abdominal viscera healthy. As she was sold to the butcher, I had not the opportunity of examining the kidneys, but the external appearance of the fat in which they had been embedded was perfectly healthy. I then examined the bladder, which, on emptying, I found to contain a quantity of coagulated blood; and, on opening it, I observed several red excrescences, which appeared somewhat like fungus hæmatodes. Your attention to, and opinion of, the appearances and cause, will oblige

Your's, ever faithfully,

THOMAS WALKER.

Rothley, May 1, 1841.

P. S.—Betonica grows abundantly on the farm. Would it be likely to produce the disease?

My dear Sir,—In reference to the treatment of the epidemic, you are already in possession of a mass of information: I will pass on, and come to the curious appearance of the blood.

Professor M. Renault, at the school of Alfort, states that a disease, bearing the character of an enzootic, shewed itself, in 1831, among the horses of one of the largest proprietors of the Somme. He was assured that the primitive alteration, the essential malady, was in the blood, which, whether taken from the dead or living animal, covered his hands without reddening them, and either did not coagulate, or formed a mass of a dirty grey colour, and contained a very small portion of fibrine:—*vide* VETERINARIAN, vol. v, pages 51, 52. We may account for the above phenomena thus:—The crassamentum, in a very strong animal, is in a greater proportion to the serum than in a weak one, and the same difference takes place in diseases. By too severe exercise, heat, and malignant disorders, the cohesion of the blood is dissolved, and it assumes an alkaline nature.

As to the "red-water of a peculiar kind," Betonica grows abundantly on the farm: Would it be likely to produce the disease?

Antonius Musa, physician to the Emperor Augustus Cæsar, wrote a book on the virtues of wood betony; notwithstanding, this herb is found to be only a mild corroborant. Should it be found to be the cause of this disease, it must act only mechanically, by the rough hairs with which the leaves are covered.

Herbs of an acrid quality, if they are not properly digested in the stomach, will cause inflammation in the urinary passages;

hence bloody urine. It may arise from sand or stone in the kidneys or bladder, from cattle drinking hard water, &c. In addition, we have now fungus hæmatodes, carcinomatous enlargement of the spleen :—see my Case in VETERINARIAN, vol. vii, page 363. A singular variety of cystitis is common and destructive to cattle in the south of France, particularly to sheep, by feeding on broom. By cattle eating that shrub, being a strong diuretic, the mucous coat of the vesica urinaria may be eventually inflamed, and produce fungus hæmatodes and hæmaturia. The following effects of broom I have translated from the French, out of Hurtrel d'Arboval's Dict. Vet. Mr. Blaine, in his Outlines of the Veterinary Art, 4th edit., page 372, has quoted the same in the margin :—

"The inflammation of the bladder is supposed to be epizootic among the 'beasts of wool,'—sheep,—in the south of France, where it is known under the name of *genestade*. It is observed to shew itself nearly every year in the districts where the commons are planted with the Spanish broom, and where the inhabitants of the country are in the habit of frequently gathering a pretty great quantity of the vegetable, in order to give it as food to the flocks during winter. The broom produces the same effect when it is abundant in the meadows where they go to graze. The sheep are fond of this plant; they are, above all, fond of the pods which contain the seed, and which they prefer to the twigs. It is particularly the seeds which occasion, as it appears, the disease, or that give to it more intensity. The sick sheep, on returning to the fold, crawl on by themselves, and make, from time to time, some steps in a slow manner. They eat no more; the eyes are dull; the ears drooping; the belly swelled; and the animal crouches often to stale. There exists in some, to the orifice of the urethra, a thick and slimy humour, which cannot flow unless the hand is pressed on the canal for the greatest part of its length. When death must ensue, it happens commonly from the second to the third day. When the animal dies, that which is not very rare, the disease kills a tenth part at least, and sometimes a fifth part of those which it attacks. At the opening of the body, all the effects of a strong inflammation of the bladder are observed, particularly towards the neck. It is in shape like a balloon, and commonly filled with urine, yellowish, and of a bad smell. The mucous membrane presents evident traces of inflammation, particularly some spots like gangrene, but which, perhaps, are only ecchymosis, and which are seen particularly at the sphincter. This phlegmasia appears, then, to have effect especially on the neck of the bladder. The most sure means to prevent it would be not to make use of the broom during winter, nor during the

autumn, and in the rest of the year to leave the flocks but little in the fields which contain this plant. As for the curative treatment, it differs not from that which has been indicated before.

The encysted tumours on the lungs were *hydatids*.

My friend, Mr. E. Bailey, V.S., assisted me in examining the urinary bladder. On laying it open, five separate fungus hæmatodes presented themselves studded on the body of the cyst, all emanating from the villous tunic, varying in size from one-fourth to one inch in diameter, shaped like a pear, having thin short footstalks, and distant from each other from two to three inches. When pressed, they discharged blood in all directions. A beautiful display of bloodvessels ramified into the mucous membrane, encircled each fungus, and formed a focus in the pedicle. On cutting into their substance, I discovered, with the aid of a good magnifying glass, a number of thin membranous divisions, forming minute cells, some of which were charged with a medullary looking substance, and others with thin blood. This accounts for the *red-water*, and it is probable that all the other cattle on the farm are diseased in the same manner. *Post-mortem* examination alone will ascertain this point.

Treatment.—The treatment hitherto consists of palliatives, as I know of only one successful case, by Robert Thomas, M. D., Salisbury. The fungus had attained the size of a cauliflower, seated on the left side of the body. It was removed by one or two applications of pulv. arsenios. combined with sulphur and opium. Where the fungus has a narrow pedicle, a ligature may be applied. If this dreadful distemper is situated internally, if it could be recognised, I know of no remedy.

I am,
Very truly, your's,
JAMES ANDERSON, *Leicester*.

ON EPIZOOTIC DISEASES.

By Mr. W. YOUATT.

I USE the term *epizootic* as most expressive of the character of the diseases to the nature, causes, and treatment of which I am about to solicit the attention of the readers of The Veterinarian. An epidemic disease is that which prevails among human beings;—an epizootic may embrace one class of animals alone, or may extend to all that have life. They may exist at the same period. They frequently do so to a greater or less extent, for their causes

are often alike, or altogether the same. They may be confined to the human being or the brute, or to one species alone of the brute creation.

They may recur at different seasons. The winter is usually most exempt from their influence, but there are times when spring, summer, autumn, and winter, equally witness their ravages. They occasionally pay us merely a passing visit; at other times their murderous influence rests upon the country month after month and year after year. There are seasons when, by common attention to cleanliness or the usual modes of disinfection, our horses, sheep, and cattle seem to bid them defiance: at other times, no care can preserve them from the attack; they become a murderous pestilence, and destroy every thing before them. At times they exhibit an enzootic character. They seem to depend on some local affection or influence, but by degrees they assume an epizootic type, and their virulence is increased in proportion as they spread around. At times the disease assumes a simple character, and promises to be easily treated, but soon, and without warning, it presents a complication of diseases, dreadful in the extreme.

What is the cause of this fearful malady? Occasionally it may be easily traced, and especially when, and in proportion as it can be referred to some dangerous or malignant principle. Temperature has much influence, and especially the rapidity, and extent, and frequency of its changes. These circumstances, at least, predispose to the influence of causes of disease from which the animal would be otherwise exempt. The nature of the soil has much to do with it; and yet it occasionally happens, and it especially did so with regard to the late epidemic, that it seems to be altogether unaffected by heat or cold, or drought or moisture. In all probability, however, some one of these causes was deeply concerned in the rise and propagation of the evil.

These epizootic influences are often observable in the lower animals, and the use of their diseased milk and flesh has been productive of malignant disease. The maladies of the quadruped often proceed from and as often are productive of similar complaints in the human being, and occasionally there are periods in which they are common victims to the same pest.

The epizootic that has lately prevailed in our country has been mostly confined to certain species of the inferior animals; and among the principal sufferers have been cattle, although the sheep, the horse, and even the feathered biped, have not escaped. In several consecutive papers it is my intention to give a rapid outline of the origin, progress, and most successful treatment of this malady; but, perhaps, my readers will forgive me if I attempt

a hasty sketch of this malady from the earliest period of which any record of it remains. I do not know a portion of veterinary medicine that has been so much neglected, and yet that is so important. Destroying, as it has occasionally done, multitudes of useful animals in a short space of time, there are few classes of disease of which we know so little, and in the treatment of which some of the most skilful of us are almost powerless. "Obscure and mysterious as they are in their causes," says Hurtrel D'Arboval, "insidious and rapid in their progress, fearful and deceitful in their symptoms, deadly in their results, and speedily destroying numerous victims before their nature or even their existence is ascertained, they deserve profounder study than has yet been bestowed upon them."

It will not be uninteresting, but will prepare us for the consideration of modern enzootics, to take a rapid survey of the character of these maladies in early times and in different countries; and in doing this we shall often be considerably indebted to the labours of Dr. Paulet.

There can be little doubt that they are as ancient as the world; the first actual description of them, however, is given by Moses, about 1750 years before the Christian æra. Pharaoh had refused to permit the departure of the Israelites from Egypt: Moses was therefore commanded to threaten him that, if he persisted in that refusal, "the hand of the Lord should be upon the cattle that was in the field, upon the horses, upon the asses, upon the camels, upon the oxen, and upon the sheep, and there should be a grievous murrain*." To this was added, a circumstance of frequent occurrence in the present day, the confinement of the murrain, for a certain period at least, to particular districts. "The Lord shall sever between the cattle of Israel and the cattle of Egypt, and there shall nothing die of all that belongs to the children of Israel; and the Lord did that thing on the morrow, and all"—a great many—"of the cattle of Egypt died."

This punishment having no effect on the obstinate monarch, another species of murrain was threatened, consisting of "boils breaking forth, and blains upon man and beast†." Blain is another word for pustule. The boil is an eruption of a larger kind, sometimes arising without any evident cause, especially in plethoric habits, often becoming an epizootic in the spring of the year, both in the human being and the quadruped, and not unfrequently taking on a carbuncular and even a pestilential character—assuming frequently the type of the *ignis sacer*—painful to a dreadful degree while it lasts, and destroying many a patient. We shall have more of this as we proceed. In the

* Exod. ix, 3, 4, 6. † Exod. ix, 9.

code of laws afterwards instituted by Moses there is no mention of any epizootic disease, but the Israelites are commanded to place a line of separation between the clean and the unclean beasts, and, in case of touching any of the latter, carefully to purify themselves and their garments.

While we are endeavouring to trace the existence of epizootic diseases in early times, we must proceed with no little caution, for to the poets we are indebted for the history of these maladies, and we know how often, in their writings, plain truth is sacrificed to all kinds of wild and chimerical notions.

The first account that we have of the horrors of an epizootic is that related by Ovid of the depopulation of the island of Ægina, in the year A.C. 1295*. He thus relates the commencement of it:—

> At first we only felt the oppressive weight
> Of gloomy clouds, then teeming with our fate,
> And labouring to discharge unactive heat;
> But ere four moons alternate changes knew,
> With deadly blasts the fatal south wind blew,
> Infected all the air, and poison'd as it flew.
> Our fountains, too, a dire infection yield,
> For crowds of vipers creep along the field,
> And with polluted gore and baneful steams
> Taint all the lakes and venom all the streams.

He then describes the effect of it on animals. The original is given in a note†, that the classical veterinarian may judge of the occasional inaccuracy of the translation.

> The young disease with milder force began,
> And raged 'mong birds and beasts, excusing man.
> The labouring oxen fall before the plough;
> The unhappy ploughmen stare, and wonder how.
> The tabid sheep with sickly bleatings pines,
> Its wool decreasing as its strength declines.
> The warlike steed, by inward foes compelled,
> Neglects his honours, and deserts the field;
> Unnerved and languid seeks a base retreat,
> And at the manger groans, but wished a nobler fate.

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* Ovid's Metamorphoses, lib. vii.

† Strage canum primò volucrumque, aviamque, boumque
Inque feris subiti deprehensa potentia morbi est.
Concidere infelix validos miratur arator
Inter opus tauros, medioque recumbere sulco.
Lanigeris gregibus balatus dantibus ægros,
Sponte suâ lanæque cadunt et corpore tabent:
Acer equus, quondam magnæ in pulvere famæ
Degenerat, palmæ veterumque oblitus honorum
Ad præsepe gemit morbo moriturus inerti.

The stag forgets his speed—the boars their rage—
Nor can the bears the stronger herds engage.
A general faintness now invades them all,
And in the woods and fields promiscuously they fall.
The air receives the stench, and, strange to say,
The ravenous birds and beasts avoid the prey;
The offensive bodies rot upon the ground,
And spread the dire contagion all around.

Then follows a frightful account of the effect of the plague on the human being, and a sketch of the propitiatory sacrifice

The destined ox with holy garlands crowned
Prevents the blow, and feels an unexpected wound,
When I myself invoked the powers divine
To drive the fatal pest from me and mine.
When now the priest with hands uplifted stood,
Prepared to strike and shed the sacred blood,
The gods themselves the mortal stroke bestow,
The victim falls, but they inflict the blow.
Scarce was the knife with the pale purple stained,
And no presages could be then obtained
From putrid entrails where the infection reigned.

The infection spread from the inferior animal to the human being, and the island of Ægina was almost depopulated. Æacus, its monarch, besought Jupiter to people it anew. The king of the gods consented, and all the ants which Æacus had seen in a dream on a certain oak were changed to human beings, who were afterwards called Myrmidons. The little island of Ægina obtained a naval superiority, which, from its diminutive size, would have been supposed to be impossible. Long before any other part of European Greece had acquired any commercial power, Ægina had a factory erected in Lower Egypt. This metamorphosis of Ovid is interesting from the information which it gives respecting epizootic disease, as well as the grand moral lesson which it inculcates.

A little more than eighty years after this occurred the siege of Troy. In the first year of it there was a grievous pestilence, or rather, according to the mythology of the times, Apollo had been grievously offended, and was scattering destruction through the Grecian camp. The following is the account which Homer gives of the affair:—

Bent was his bow the Grecian hearts to wound.
Fierce as he moved the silver shafts resound.
Breathing revenge, a sudden night he spread,
And gloomy darkness rolled about his head.
The fleet in view, he twanged his deadly bow,
And, hissing, fly the feathered fates below.
On mules and dogs the infection first began,
And, last, the vengeful arrows fixed in man.

The simple meaning of this is, that the season was excessively sultry—that the dogs, horses, and mules, first began to sink under the excessive heat; and that, at last, the soldiers began to perish in great numbers. The means which were taken to lessen the mortality are related by the poet. They consisted in frequent bathing, in personal cleanliness, and in throwing into the sea every offensive matter.

Many centuries now pass, and we find a fearful record of the epizootic in the Roman territories. Livy thus describes its attack, U. C. 289:—

"That was a grievous season, and it chanced to be a pestilent year both to city and country, nor to the men more than their cattle; but the fear of being plundered increased the violence of the disease, by their taking of sheep and the like, as well as country people, into the city. Then the mixture and conflux of all sorts of animals did not only annoy the citizens with unusual smells, but the country folks, too, were crowded up into little huts where the heat and watching was very offensive to them; yea, the friendly offices that they were fain to do to each other, together with the contagion itself, propagated the distemper all over the town*."

In the year U. C. 326 was another dreadful eruption of the disease:—

"In that year there was a very great drought, nor did the people want only, but the earth also, being bereft of her native moisture, could scarcely supply the running streams; insomuch that in some places the defect of water about these dried rivers and fountains caused a great many cattle to die of thirst, while others were taken off by the murrain. Yea, there was a contagion very rife at last among men also, which, although it first seized upon the country folks and servants, soon after filled all the city†."

Aristotle asserts that no pestilent disease similar to those by which men and quadrupeds suffered has ever attacked the fish‡. We shall hereafter see the incorrectness of this assertion.

Ancient history contains a few other references to these epizootics. One was at the siege of Syracuse by Marcellus, anno ant. J. C 212. Silius Italicus gives a dreadful description of it first attacking the dog, then the bird, then horses and cattle, and, last of all, the human being§.

Livy relates that, in the 178th year before Christ, a pestilence appeared among cattle, which was followed in the succeeding year by a more fearful one attacking the human being.

* Tit. Liv., lib. iii, cap. 6. † Ibid., lib. iv, cap. 30.
‡ Arist. Histor. Animal., lib. viii, cap. 19. § Silius Ital., lib. xiv.

Neither Cato the Censor, nor Varro, nor the poet Lucretius, take any material notice of the prevalence of any epizootic. Cato, indeed, speaks of an eruption on sheep, for which he recommends friction with olive oil and exposure to the air. This was probably the common scab. Varro derives all that he recommends from the Greek authors; and Lucretius, having recourse to the Greeks, gives a description of the ignis sacer.

In our next number we will consider what information can be gleaned on this subject after the commencement of the Christian era.

A CASE OF PARAPHYMOSIS AND AMPUTATION OF THE PENIS.

By Mr. Harry Daws, *V.S., Rathbone Place, London.*

Sept. 21*st*, 1841—The subject of these observations was a roan cart stallion about twenty years of age, belonging to one of our extensive breweries.

Previous history:—About five or six weeks antecedent to the above date the animal was affected with spasms of the bowels, and was treated by the farrier of the establishment, who administered to him such powerful excitants, that the urinary organs became involved in one general inflammatory action.

Incontinence of urine, from severe irritability of the mucous tissues lining the bladder, and their secretions being altered both in character and in quantity, accompanied by a continued erection of the penis, from an incessant desire to void the urine, were the results.

Purgative medicines had been exhibited, and produced the effect of allaying the irritable state of the bladder in a few days; but the penis remained enormously swollen, particularly at the part nearest the prepuce, where a considerable degree of solidity had amassed from depositions of coagulable lymph, and on the surface of this tumefaction were many irregular unhealthy ulcerations. The veins on its dorsum had become greatly enlarged, and had assumed a varicose state.

Emollient cataplasms, fomentations, and scarifications, had been repeatedly tried, but without any benefit accruing.

I was this day consulted in conjunction with another practitioner, a friend of mine, and its removal by amputation was recommended, and performed shortly after.

In the cases of amputation performed by M. Barthelemy, Mr.

Snewing, and others, and which Mr. W. Percivall has quoted in his Hippopathology, some difficulty was experienced by the operators in preventing the retraction of the stump of the penis within the prepuce before the hæmorrhage had been arrested; I was therefore induced to adopt a somewhat novel mode of operation, which entirely freed me from the unpleasantness to which those gentlemen were subjected.

The patient having been cast and properly secured, I passed a straight-pointed scalpel through the substance of the penis a little above the urethra, and at one incision divided the corpora cavernosa and the vessels on its dorsum close to the prepuce. The hæmorrhage from the pudic arteries was not so much as might have been expected, and was speedily arrested by the judicious application of the actual cautery. The urethra and corpus spongiosum were now divided, and the stump immediately retracted. Several small arterial trunks situate in the integuments which had been divided were arrested in like manner by the cautery, and the patient was allowed to be freed from his shackles.

The only after-treatment adopted was frequent ablutions of tepid water, until all consecutive inflammation had subsided, and an aperient administered occasionally.

In ten days he resumed his work, and no untoward circumstance ever resulted to prevent a happy termination of the case.

November 25.—The end of the stump has cicatrized completely, and he voids his urine without any obstruction.

THE COMMUNICATION OF GLANDERS FROM ONE HUMAN BEING TO ANOTHER.

The case of a man affected with acute glanders communicating the malady to another person was, until the last month, without example. M. Rocher, medical student at the hospital of Necker, was charged with the dressing of a patient affected, first, with chronic farcy, and, subsequently, with acute glanders, under which he died. The dressing of the patient occasioned daily contact between him and the pupil: moreover, the latter, too zealous in the pursuit of science, prolonged the time of his continuance with the patient in examining all the symptoms of the disease minutely. M. Rocher took also an active part in the examination of the body after death, and during the time that the nasal fossæ were being sawn he maintained the head immoveable by placing his hands over the integuments of the temple and face, which were the seat of the gangrenous eruption of the disease.

Previous to the death of the groom, the pupil had already suffered from an attack of diarrhœa and colic; but it was only in the night after the post-mortem examination that the disease really commenced. M. Rocher awoke in the night with shivering, to which succeeded fever and general pains. On the two following days, although he felt much pain in his joints, yet he rose and left his chamber. On the third day the pains became more acute, and fixed themselves in the left thigh, the right shoulder, and the right side of the chest. On the fifth day M. Berard, physician to the hospital, discovered in the thickness of the thigh and shoulder two tumours, and from that time he prognosticated the most unfavourable termination of the malady. During the following days the tumour of the shoulder was absorbed, while that of the thigh became soft and fluctuating. Six days after its appearance it was opened, and the fluid discharged. It consisted of pus mixed with blood.

The discharge was collected and given to M. Leblanc, a distinguished veterinary surgeon, who inoculated a horse with it on the same day.

In the meantime a new tumour, preceded by excessive pain, made its appearance on the internal malleolus of the right foot, and in the course of three days it arrived at suppuration. Finally, a fortnight after the commencement of the disease, the skin of the nose became inflamed and painful; the following day the inflammation extended to the cheeks, to the eyelids, and as far as the middle of the forehead; and gangrenous phylactænæ and pustules appeared scattered over the red and swollen parts of the face.

The latter symptoms were more marked on the following day, when a copious bloody liquid was discharged through the nose. Numerous pustules then appeared all over the body, and on the ensuing night M. Rocher died—sixteen days from the commencement of the disease.

The horse inoculated by M. Leblanc died on the same night as M. Rocher, after having exhibited all the symptoms of farcy and acute glanders. The examination of the nasal fossæ presented those lesions which particularly characterise the latter affection.

The case which has just been related, says the author, proves the contagious property of glanders from man to man. It was not by inoculation that M. Rocher caught the disease. He had no excoriation on the fingers or hands during the whole of his attendance on the patient. He neither punctured nor cut himself during the post-mortem examination, but always washed his hands carefully after touching his patient. The disease, therefore, must have been contracted in consequence of a miasmatic

infection analogous to that of variola or scarlatina. In point of science, this fact presents great interest, but it is of more importance as regards the public health. It shews to what dangers those persons are exposed who approach individuals affected with these disorders, and it will induce medical men to take and recommend precautions for avoiding the contagion. Even here it ought not to rest; it calls for the interference of government. Let us hope that the authorities, in giving more attention to that part of public *hygiene* which concerns domestic animals, and by causing horses affected with these disorders to be destroyed, may put a limit to this horrible disease.

The Lancet.

THE VETERINARIAN, JANUARY 1, 1842.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

THE year 1839 beheld our Journal augmented in size from 60 to 100 pages; and in price increased from eighteen pence to half-a-crown: the year 1842 will behold it reduced to its former dimensions and price. Our friends and subscribers all being in possession of the knowledge of the circumstances that have led to these changes, no explanation need at our hands be offered. Whether they are likely to tend to the advantage or disadvantage of the Journal can be by time alone determined; and whether they do or not, it is still no less the ardent desire of its conductors that such alterations may, in the end, subserve to the benefit and advancement of the veterinary art. The principles which our Journal has hitherto espoused—the unbought and unpurchasable independence it has hitherto maintained—its determination to stand or fall with that art which it essays to promulgate, and that profession by which it has been fed and supported, come what will or what may, must—shall remain unchanged. THE VETERINARIAN has never, from the very first, had but one object in view—to assist in, and afford opportunities for, the cultivation of a field of science which had long—too long—lain unexplored. How far it has, in the course of the fourteen years it has worked, fulfilled this object, those who have been its "constant readers"

can bear witness; whilst those who have been amongst its most valued contributors have all along most strongly testified their opinion by the support they have been pleased to confer upon it.

From the first THE VETERINARIAN has been identified with no other interest than those of the profession, and to the last the profession's journal it must remain. When it ceases to be that, it must cease to exist. If the profession—by which is meant the general body of veterinary practitioners—have any fault to find with it, they have only to express their dissatisfaction, and point out the nature of it, for the grievance to be removed: not so when complaints come from parties. It has never truckled to party-interest. It never can. It must wave its banners, *pro bono publico;* and manfully fight under that ensign, and under no other.

P.

NINE years have passed since the commencement of the last series, and, until the spring of 1840, they were pleasantly and profitably passed. All parties seemed to have amalgamated—all seemed to view with equal delight the onward progress of our profession. Then came that fatal Circular, the existence of which we give the author the credit of deeply lamenting—a document which has eventually contributed to diminish, to a fearful degree, the income of the practitioner—which has destroyed thousands of our cattle, not one of which needed to have perished, and which has produced a species of alienation between the breeder of the cattle, and the man to whom he used to repair with confidence when any of his beasts were afflicted with disease.

Alarmed at the altered situation in which he was placed, the veterinary surgeon looked fearfully around in order to discover the cause of the evil which he felt or dreaded; and, as it regarded his neighbours, his professional brethren, and those whom he used to view with respect and confidence, many a kindly feeling between man and man was alarmingly and disgracefully diminished. Of too many of our professional brethren residing in the country this was too faithful a picture a few months ago. All this, however, will gradually pass away. The agriculturist, wearied by losses which he ought not to have experienced, will again

place confidence in his veterinary neighbour—the members of the profession will again appreciate each others' worth, and will unite in upholding the honour and promoting the welfare of their common profession.

In respect to the veterinary schools:—The Professor of the northern school has been unwearied in the discharge of his duty, and has lately fulfilled a most important part of it, and which no teacher should neglect—he has left to his pupils, and to the students of the veterinary art everywhere, a useful book of instruction when he is called away.

With some drawbacks that have reference to the last session, the improvement of the southern school has been considerable and rapid. If on account of the bereavement which he has undergone, and which all lament, the lectures of the head Professor have been for awhile suspended, he had in the last session been more regular than was always his custom in the delivery of his lectures on the pathology and surgical treatment of the horse, and had given the promise of a still more earnest discharge of the duties of his situation. Of Professor Spooner, we will only say that he was always at his post, exerting with his characteristic ardour every power that he possessed in promoting the improvement of the pupil; and Professor Morton, no longer overwhelmed and debased by the duties of "the office," was enabled to concentrate all his energies in establishing a new and important division of medical chemistry—that which had reference to the brute.

There was, however, another branch of veterinary education, and that had been until of late strangely and disgracefully omitted—the physiology and pathology of cattle, sheep, and other domesticated animals.

In the closing number of the last series, we stated that "there were three subjects—three cardinal points—that we would never abandon," and the first of them was, "the introduction at the Veterinary College of a competent lecturer on the diseases and management of cattle."

Has such a person yet been found? The head Professor has promised again and again to deliver a competent course of lectures of this kind. Has the task been accomplished? We

would ask, under present circumstances, respectfully and kindly, have there been given to any class a plain and straight-forward and complete course of lectures on the subject? When this question was plainly asked at a meeting of the Agricultural Society, he could not say that such a course had been attempted: and why? because he had never acquired, or been in a situation to acquire, that knowledge of the diseases of cattle which was requisite to enable him efficiently to lecture on such a subject.

Through the exertions, however, of that gentleman, the pupil at the Veterinary College has been furnished with the means of acquiring the requisite knowledge *to a certain extent*. Mr. Laycock's dairy, at Islington, containing 600 or 700 cows, has at certain times, and with certain restrictions, been thrown open to the veterinary student. What, however, are the diseases which he will have the opportunity of studying there? All those to which cattle are liable? No! far from it. He will see some cases of diseased feet, and diseased udder, and of the epidemic that may be occasionally prevalent. He may occasionally witness some of the manipulations of parturition, but they will be few and far between, for, generally speaking, as soon as a cow is dry she is sent to the butcher, and she must be a favourite indeed if she escapes this doom.

How little way will this go towards a satisfactory knowledge of the diseases of cattle? Occasionally some of the cattle are ill, evidently so. A dose of physic is administered—some gruel is made. Possibly blood is abstracted. If she is a favourite, this may be repeated on the second day; *but if she is not well then, she is sent to the slaughterman—long before the real character of the disease can be ascertained, or any light can beam on the mind of the student.* In the course of the last twelve months, 72 cows have been thus got rid of in one of the metropolitan yards. This seems a most abominable system, but it is the system; and then, what advantage can the student derive, except in cases of garget or foul in the foot? Therefore it was that, although students were admitted to Mr. Laycock's dairy—Professor Sewell of the English Agricultural Society gratuitously paying every expence for the medical treatment of the cows—the owners of other yards peremptorily refused them ad-

mission, although the same terms were offered. In point of fact, as matters are conducted in those establishments, neither the Professor, the students, nor any one else, can see any thing decisive or valuable as to the proper treatment of cattle; nor will or can the pupil satisfactorily return to his home to undertake this all-important division of the veterinary profession.

In order to impart to the pupil the requisite knowledge of the diseases of cattle, some one must be procured who was bred and born among them—who has had the opportunity of studying *all* their diseases—who has diligently availed himself of that opportunity, and whose previous education and habits will enable him to give to his acquired knowledge that scientific form which a course of lectures would require. Such a man alone can be of any essential service in accomplishing that grand desideratum of the College, the Agricultural Society, and the farmer everywhere—an improvement in the knowledge of the nature and causes and proper treatment of the diseases of cattle, sheep, swine, and other domesticated animals. Such a man would easily be found, with health, and strength, and an inquiring mind, and a love of his profession: and the country would hail with one universal acclamation of satisfaction the adoption of such a system.

Y.

A SUMMARY OF THE TRANSACTIONS AT THE ROYAL VETERINARY SCHOOL AT ALFORT, DURING THE SCHOLASTIC YEAR 1840-41.

In the Session that has closed, there have been admitted into the hospital 569 horses, 2 asses, 8 mules, 4 bulls, 2 goats, and 294 dogs, total 879 animals.

Of the 569 horses 515 were dismissed cured, or very materially relieved, and 54 died in the infirmary, viz. 17 of glanders or farcy, 18 of acute diseases, 5 of different chronic affections, 13 of serious chirurgical diseases, and 1 of tetanus. The proportion of those that died constituted $\frac{1}{10}$th of those that were subjected to treatment!

Of the 294 dogs that were received into the hospital 260 were discharged quite well—30 died, and 4 were abandoned from the

beginning as incurable : 16 died from acute disease, 3 of chronic disease, 4 under surgical operations, and 7 of nervous complaints. About 1 patient out of 10 was lost.

There were brought for consultation in the morning 2129 horses, 10 cattle, 41 dogs, and 2 pigs, constituting a total of 2182 animals.

Among the horses were some that had been recently bought, and were brought by their proprietors to be examined as to their soundness. Others, affected by external or internal diseases, were examined by the Professor, and then placed under the care of the students of the 4th year. The horses that were sent for operations of various kinds amounted to 252.

To the students of the 4th year were also confided the care of the out-door patients. They amounted to 280 sheep, 104 pigs, 8 cows, and 94 horses. Thus, in the course of the year there came under the care of the Professor and the pupils 3534 animals of one species or another. Of these 709 were under the care of the students of the last year. The infirmaries that were built in June received many more patients than could otherwise have been provided for, and increased the number to 6459.

Diseases of the foot have been of very common occurrence among the horses sent to the infirmary, on many of whom painful and serious operations were performed before a cure could be effected.

With the double view of preventing or arresting caries of the cervical bones, whether in diseases of the withers or the poll, many means have been tried. Among the agents that have been the most successful, is the rectified empyreumatic oil, rectified or mixed with essence of peppermint. The bathing of the carious part with this irritant and antiseptic agent has been sometimes successful.

Merino sheep, and others crossed with them, are often attacked by a disease of the hoof, which by the suffering it occasions, prevents the growth and the condition of the sheep, and the growth of the wool. It is recognized by the name of the rot, and is justly regarded as a serious disease.

Among the means of cure a solution of quick lime has been recommended, into which the foot is to be plunged, after the diseased parts have been removed by the knife. This application, although generally successful, requires to be applied for a considerable time in order to effect a perfect cure.

In the course of last May, an agriculturist, in order to abridge the time usually employed in the cure of foot-rot, after having pared away the detached parts of the horn, made the sheep, morning and night, pass through some troughs placed at the en-

trance to the sheep-cote, and filled with a solution of lime. M. Delafond practised the same on 710 sheep attacked by foot-rot, and he found that this new way of employing the hydrate of lime was both simple and economical.

The same Professor has also proved, that long and deep incisions, and reiterated application of the cautery, and irritating applications, were, if not injurious, at least useless in the treatment of recent or long-continued inflammation of the jugular vein.

M. Delafond has also shewn to the students, that a great number of cases of phlebitis, under different forms and with different complications, had been successfully treated by prolonged rest, the use of food easy of mastication, emollient anodyne lotions and embrocations, the opening or puncturing the fistula only to permit the escape of purulent matter, and, most of all, the taking from the animal the possibility of rubbing the diseased part.

An epidemic disease among horses has appeared in many departments, and several cavalry regiments. This inflammatory affection, often wearing a mild character, at other times being serious and even fatal, has its seat oftenest in the lungs, and sometimes in the digestive passages, and frequently, all at once, in both of them. M. Delafond is preparing an Essay for the Royal and Central Society of Agriculture on this malady.

During the last four or five years M. Delafond has observed on six horses an affection which he has considered to be neurosis of the heart. It has since appeared in our school, and after several relapses, the patients have been restored to perfect health.

An agriculturist in the neighbourhood of the school had, in 1819, a hundred pigs, which were suddenly attacked by disease, and they were all dead in fifteen days. In June last he bought another hundred, which were soon attacked, and seven of them died in less than forty-eight hours. M. Delafond observed in those that died, and on eighty-eight that yet lived, acute inflammation of the roof of the mouth, and of the tonsils, with the formation of false membranes. The Professor, assisted by two of the pupils, lightly cauterized the affected parts, and applied to them a mixture of honey and hydrochloride acid in such proportions as to produce a slight degree of causticity. Out of the eighty-eight that had been attacked eighty-five recovered.

Toxicology.

The beech mast (*fagus castanea*), which is eaten without danger by pigs and fowls, is a violent poison with regard to horses. Some veterinarians have observed, that the cake which remains after the pressure of the oil from the mast, given as food

to horses, even in small quantities, almost immediately produces the appearance of the most alarming symptoms, followed by speedy death. M. Lefort, veterinary surgeon at Champlette, sent to Alfort some of the mast, and of the cake which remained after pressure, for experiment on their injurious properties. As the horses evinced great repugnance to eat either the mast or the cake, M. Prudhomme, at the desire of the Director, forced on some of them a portion of the oil that had been expressed, and on others, the cake from which it had been expressed. They all died within twelve hours after the administration of both.

With the view of ascertaining whether, in animals that were poisoned by too strong a dose of arsenic, the urinary secretion was suspended, as some physiologists have affirmed, M. Delafond destroyed eleven horses and four dogs with this drug. During the whole period, from the exhibition of the poison to the death of the animals, the urinary secretion, although diminished, did not cease, and the apparatus of Marsh always indicated the presence of arsenic in the urine.

The Chair of Agriculture.

M. Rodet, *Professor.*

The experiments commenced by M. Yvart on crossing the sheep of Nar and Rambouillet with the Merinos have been continued. A beautiful ram of the Vosges breed has also been introduced. Crosses have likewise been effected between the long-woolled Dishley sheep and the Merinos of different flocks. These experiments, which promise to improve our wool to a very considerable degree, are yet in progress.

The eagerness with which good bulls of the Durham breed have been lately imported, the crowds of agriculturists that have attended the sale and the letting of them, and the high price which they have fetched, prove that the excellent qualities of these animals are more and more appreciated. They are essentially destined for slaughter; but while preparing for their ultimate destination, they yield a greater quantity of milk than can be procured from any other breed.

The Chair of Chemistry, Physic, and Pharmacy.

The study of morbid productions, considered in relation to their composition, has always engaged the attention of the professor of this class, and as often as the hospitals have supplied him with materials, he has eagerly proceeded to a chemical examination of the different products, which interest as much the pathology as the physiology of animals.

In this session, as has been already stated, a disease among pigs has produced the formation of false membranes on the mucous pharyngeal and nasal surfaces. Analysis has demonstrated that these abnormal productions, like those observed in the human being, and in some animals on other mucous surfaces, are composed of fibrine, with a small quantity of albumen.

Some observations follow with reference to arsenic and antimony, but they are not of sufficient importance to detain us.

On the whole, the "compté rendu" of the last year is, in our opinion, considerably inferior to that which has been usually presented to us.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Travels in the Himalayan Provinces of Hindustan and the Panjab; in Ladakh and Kashmir; in Peshawar, Kabul, Kunduz, and Bokhara. By Mr. William Moorcroft and Mr. George Trebeck, from 1819 to 1825. Prepared for the press from original Journals and Correspondence, by Horace Hayman Wilson, M.A., F.R.S., &c. Professor of Sanskrit in the University of Oxford.

No part of the world is, probably, demanding or receiving greater attention from the British public than the immense continent of Asia. The eyes of the christian are directed to it because of the immense multitude of human beings it contains plunged in the depths of ignorance and superstition. The statesman, the warrior, the merchant are interested in its territory, its dependencies, and its resources. The antiquarian, the geologist, and the historian have, each and all, their minds directed to a portion of the habitable globe rich in the quality and rarity of its stores.

As lovers of general literature we should hail, at any time, a work like this with much satisfaction, because it contains an account of districts but comparatively little known or described.

The travels of Moorcroft, however, to which I venture to draw the attention and request the perusal of the readers of The Veterinarian possess, in my mind, no ordinary attraction. In the first place, it is chiefly the journal of a veterinary surgeon; a man, the colleague of Coleman, the associate of one whose memory lives in the hearts of all who knew him; in after-

life, the superintendent of the East India Company's military stud, who, in addition to his contributions to veterinary science, introduced the cultivation of oats in British India, and, eventually, sacrificed his life in the praiseworthy attempt of improving the breed of horses. It was this (a darling object) that led him, in successive periods, to undertake two journeys into central Asia, which have proved to be* the most enterprising, and, in a great measure, the most successful ever made. In his first attempt, which was published in the twelfth volume of the Asiatic Researches, it appears without contradiction, that he was the "first European to cross the Himalaya and make his way to the great plain between that and the Kuenlan chain—the situation of the sources of the Indus and the Silly, and of the two remakable lakes of Kavan and Mánasa. In this journey he not only ascertained the valuable geographical facts alluded to (the situation of the sacred lakes of the Hindus, and the upper course of two important rivers), but the region also of the shawl-wool goat, and opening a way for the importation of wool into Hindustan, and finally into Britain." And all this, be it observed, was undertaken and accomplished without encouragement from the government of India.

Had Mr. Moorcroft done no more than this, beside adding a lustre to that profession to which we belong, he might justly have been described as a benefactor to his country. But he did not stop here. To penetrate into Surhidan, to the country of a breed of horses which it was his great ambition to domesticate in India, was the object for which this his second journey was undertaken, and which terminated so fatally to himself and party.

In the journal before us, the greater part of it appears to have been furnished by Mr. Moorcroft. The geographical details were intrusted to Mr. Trebeck, his fellow-traveller. As, therefore, the former must be considered as the principal, it is to him that we shall confine our observations. The following account, taken from the preface, gives what appears to us not only a correct, but a just, account of his life and character:—

"Mr. William Moorcroft, who is to be regarded as the originator of the journey and the principal of the enterprize, was a native of Lancashire, and was educated at Liverpool for the profession of a surgeon. Upon the completion of the usual course of study, however, his attention was diverted to a different pursuit, and he finally settled in London as a practitioner of veterinary surgery. His reasons for the change are thus detailed in a letter written from Kashmir to a friend in London.

"While a pupil of Dr. Lyon, the colleague of Dr. Currie at

* See preface *passim*.

the Liverpool infirmary, the attention of the physicians and surgeons of that institution was suddenly and strongly called to a formidable epidemic disease amongst the horned cattle of a particular district, and was thought to be extending. It was agreed to depute a pupil to examine the disease on the spot. The choice fell upon me, and in company with Mr. Wilson, the ablest farmer of the day, I performed my commission. As arising out of this occurrence, it is only necessary to remark, that two gentlemen, of whose judgment and patriotism I had the highest respect, took the trouble of endeavouring to shew, that, if I were to devote myself to the improvement of a degraded profession, closely connected with the interests of agriculture, I might render myself much more useful to the country than by continuing in one already cultivated by men of the most splendid talents. Convinced by their arguments, but opposed by other friends, and especially by my master, the matter was comprised by a reference to the celebrated John Hunter. After a long conversation with me, Mr. Hunter declared, that, if he were not advanced in years, he himself would begin to study the profession in question. This declaration was decisive, and I followed the course of study which Mr. Hunter was pleased to indicate.

"As there was no veterinary school in London at that time, Mr. Moorcroft went over to the continent, and resided for some period in France. On his return he settled in London, where, in conjunction with Mr. Field, he carried on for some years a very prosperous and lucrative concern. The nature of the profession, however, involved many occurrences unpleasant to a man of cultivated taste and warm temper, and amidst intercourse with persons of station and respectability, collision with individuals not always possessed of either. Mr. Moorcroft, therefore, became disgusted with his occupation, although he speedily realised a handsome property by it. A great portion of this, however, he lost in some injudicious project for manufacturing cast-iron horse-shoes; and he readily, therefore, accepted an offer from the Court of Directors of the East India Company to go out to Bengal as superintendent of their military stud. He left England in May, 1808, in the same fleet, though in a different ship, with the writer of this notice, who, when he occasionally saw Mr. Moorcroft during the voyage, when the vessels were near to each other, or on their touching at Madeira, little anticipated that he should ever become his biographer."

For further information relative to the object of our travellers, their route, the difficulties they had to overcome, their success, and the result, your readers must be referred to the work itself. It is a journal replete with information useful for all classes of the

community. It will lose some of its interest in the eyes of the veterinary body from not having had the benefit of Mr. Moorcroft's correction. The manner in which, however, Professor Wilson has executed what must have been a most difficult task is highly creditable to him, and the profession will not, I am sure, withhold from him their thanks. The following is his sketch of Mr. Moorcroft's character as a traveller:—

"In many respects he was most eminently qualified, and was not to be surpassed in determination, hardihood, endurance, and spirit of enterprise. His scientific attainments were strictly professional, and he had neither the preparatory training nor the means to investigate profoundly the mysteries of nature. Neither was he an oriental scholar or an antiquarian, although he had a practical use of some of the dialects of the East, and took a ready interest in the remains of antiquity which he encountered. His chief objects were, on all occasions, rural economy and manufactures, as he entertained a notion that much was to be learned in both from the natives of the East as well as to be communicated to them."

No one among us can arise from the perusal of this journal without feeling his heart glow within him, that its author was a veterinary surgeon. It is one of the few contributions emanating from our body to the general literature of our country. May they soon be more! Many of us, especially those connected with the army, may draw many useful lessons from it; passing through tracts of country of which oftentimes but little is known, they might collect much information of value to their brethren; nor can we better impress the necessity of a more extended education than that hitherto adopted than by referring to this journal, which, had Moorcroft possessed that which many of us may now obtain, would have been without a fault.

T. W. Mayer, *V.S.*, *Newcastle-under-Lyne.*

White's Compendium of Cattle Medicine. Sixth edition. Rearranged, with copious notes and additions, by Mr. W. C. Spooner.

White's Cattle Medicine, the last of his works, has always ranked high in the opinion of the public. In process of time, however, other authors, possessed of more extensive advantages, and giving to their works a more scientific as well as practical form, entered the field. It was natural for the proprietors of the first work to endeavour to maintain an honourable rivalry with the others, by keeping pace with that rapid increase of knowledge which has given to veterinary writers a charm and a value not

known before. With this view, they obtained the able assistance of Mr. W. C. Spooner, to whom we are indebted for this new and valuable edition of White. It is, indeed, an improvement on the old work; and if Mr. Spooner borrows largely from other writers, he honourably acknowledges his obligation. This volume not only embraces the diseases and management of cattle, but also of sheep, swine, dogs, poultry, &c.

We extract the Editor's observations on the "Drop, or Puerperal Fever," as a specimen of the manner in which the various subjects that come before him are treated:—

"Many cows die of this disorder, which is produced either from being too fat at the time of calving, from having been fed improperly, or from the calf having been disturbed in the womb, and having thereby its position changed, or from the force and violence employed in delivery. Difficult calving is so frequent in cows, that cattle doctors who have acquired a successful method of assisting them, or *drawing* the calf, as it is termed, are considered very useful persons in a dairy district. Too often, however, they do considerable mischief by the force they employ, and especially if the cow is fat, or in good order. Not only inflammation of the womb is thus produced, but such exhaustion of the vital power, that the fever which quickly follows proves fatal.

"The remedies to be employed are bleeding, a mild laxative, and a clyster. Cordials and anodynes are sometimes employed, such as ale with a little toast in it, or some preparation of opium.

"There may be cases where the cow, after calving, appears languid and weak, and where such medicines are useful, by giving temporary energy to the system, and thereby hastening the expulsion of the after-birth; but whenever there is much fever, which is indicated by the quickness of the pulse, difficult breathing, pain, and want of appetite, cordials would be improper.

"Puerperal, or milk fever, is seldom cured, but may always, or almost always, be prevented, by keeping cows as much as can be in the fields, and, when it becomes necessary to give hay, to give such only as is of the best quality. It is advisable also to keep them in a situation where they can have shelter in wet and cold weather. Tying them up, and keeping them on bad hay, is certainly the source of the evil; but it should also be known, that exposure to the wet and cold of winter greatly depresses the vital powers, and thereby diminishes the energy of the digestive system, rendering it less capable than it would otherwise be of digesting the bad hay or straw that is often, or generally, given them in winter. Mr. Sumner cured five out of six by bleeding freely, giving opening medicine and clysters, and covering the loins with sheep-skin."—*White.*

There is no disease affecting cattle which has been involved in so much apparent mystery as this, and none which has elicited such various and contradictory opinions. Its very name is calculated to mislead, and to induce the supposition that it is the same as the puerperal fever of women after child-birth; whereas, in point of fact, it is a peculiar disease affecting cows alone. Considerable attention has, however, of late been bestowed on it by veterinary surgeons; and if we have not yet attained that insight into its nature and causes that we could wish, we have yet very greatly improved and extended our knowledge and acquaintance with the matter. It used to be supposed that the uterus or womb was the principal seat of the disease; but it has now been ascertained that this organ is not affected in one case out of ten. To Mr. Friend, of Walsall, we are principally indebted for directing our attention to the brain and nervous system; and it has since been placed beyond doubt, by the researches of other practitioners, that these organs are the principal seats of the disease. There are, however two varieties; one exceedingly dangerous, the other comparatively attended with little danger; and this accounts for the different opinions that are given as to the fatality of the disease. In the severer description, the brain as well as the spine is involved; in the milder form, the lesions appear confined to the region of the loins. Cows rarely become affected with this disease until they have had several calves, and the short-horn breed is more liable to it than others.

"The first symptom," observes Mr. Simonds, "in the severer affection, is a staggering gait; the respiration soon becomes disturbed; the eyes appear prominent and glassy, and the pupils greatly dilated. After reeling about for awhile, the animal falls —often to rise no more. The head is turned to the side, and the animal becomes unconscious. Liquids, if given with the horn, frequently enter the larynx without producing coughing or irritability; the nerves of sensation appear to have lost their power; the animal often loses the power of motion in the fore extremities as well as the hind, and sensation, too, is occasionally lost, with or without the power of motion." Sometimes the animal lies in a comatose state; at others, it exhibits great pain and distress. The disease may destroy life in a few hours; and if the animal dies, it is generally within forty-eight hours from the commencement of the attack. The pulse is generally much quickened, being from 70 to 80 in a minute, but soon becomes very weak. The appetite is, of course, totally lost; rumination suspended; and there is generally fatal constipation. It must be confessed, that the majority of cases of this severe affection prove fatal; and, on examination of the body after death, the princi-

pal disease is found to exist in the brain and spinal cord; the latter, in the greatest degree, at the region of the loins. The cord itself is often discoloured, and the vessels of the membrane immediately covering it injected with blood, and sometimes these vessels are ruptured. The brain often presents a similar appearance, though in a less marked degree. The third stomach is nearly always full of hard and indigestible food; and sometimes the other viscera present appearances of inflammation. The uterus is generally found in the same state as it usually is a few days after parturition; but, occasionally, it is discovered in a state of the most intense inflammation. In these cases, inflammation of the uterus and vagina appears added to the other disease. When such is the case, there is usually great pain exhibited, and the inspection of the organs of generation shews great inflammation. The symptoms of the milder form of this disease are much less severe; the animal drops, and is unable to rise; but continues feeding, and possesses consciousness and sensibility. The disease is a local one, affecting the spinal cord, but confined to the loins. The bowels are costive, and the bladder often loses the power of discharging its contents. If the case goes on favourably, the animal rises of her own accord in the course three days or a week. In both affections the digestive organs, altogether, are greatly deranged, and, as Mr. Simonds well expresses it, the food, no longer obeying the laws of vitality, is acted on by those of chemistry: fermentation often takes place, and the animal is frequently hoven. With respect to the cause of this disease, and why it should be confined to the cow, a satisfactory solution has not been afforded. It appears, however, to be the fact, that cows in good condition are more susceptible of the disease than those in a poorer; and it more commonly appears after the animal has had four or five calves. Mr. J. Hawthorn advises, with a view of preventing the disease, to lower the diet for several days before and after calving, and that the milk should be drawn at the same time.

Treatment.—In treating this disease, it is very important to ascertain whether it belongs to the severe or the mild variety, as on this the activity of the treatment must in some measure depend. It will also assist our prognosis to ascertain whether the secretion of milk continues or not, as it has been found that, in the former case, the cow usually recovers, and in the latter generally dies. If the animal feels cold, it will be desirable to exhibit some diffusible stimulant in the first instance, such as an ounce of nitrous ether. Bleeding must depend on the state of the pulse: if full and bounding, we should abstract sufficient blood to render it softer and weaker; if, however, the pulse is weak,

we should abstain from bleeding. It is sometimes necessary to repeat the blood-letting, but rarely desirable to abstract a large quantity. It is of vast importance to produce purgation; on this, indeed, the recovery will greatly depend; but it is surprising what enormous quantities of medicine are often exhibited in this complaint before this effect can be obtained.

The following is a good formula:—

Sulphate of magnesia or soda	1 lb.
Flower of sulphur	2 oz.
Ginger powder	½ oz.
Spirit of nitrous ether	1 oz.

To be dissolved in warm water.

To this, in very severe cases, may be added ten or fifteen drops of croton oil. One-third or half the above, with the exception of the croton, may be afterwards administered every six hours, until a proper effect is obtained. The strength and repetition of this purgative must be regulated by the severity of the affection. The draught should be given slowly and carefully; and, when the severer affection is present, it would be desirable to administer it by means of Read's syringe and tube, letting the latter reach half way down the œsophagus, otherwise there is great danger of the medicine entering the windpipe, and thus producing, as it has in numbers of instances, dangerous and fatal inflammation. The next point is to apply an active stimulant, such as tincture of cantharides with hartshorn and oil, to the whole course of the spine, which should be repeated more than once. The purgative should be assisted by the administration of frequent injections, and the bladder evacuated by means of the catheter. When purgation is established, vegetable tonics, such as gentian and ginger—two drachms of each—may then be given.

For a farther account of this disease, I beg to refer to the pages of The Veterinarian, and particularly to that portion devoted to the records of the Veterinary Association, before the members of which body the subject has been introduced, and by them fully and satisfactorily discussed.

W. C. S.

A CASE OF GARGET IN A COW.

By Mr. J. Hodges, *V.S., Guernsey.*

On the 3d of September last. I was requested to visit a cow, the property of Mr. Gaort, of Saviour S——. On my arrival, the following symptoms presented themselves:—Quick irritable pulse —cold extremities—staring of the coat—the mammillary glands the left side very much swollen, and tense and painful to the touch. On inquiring of the owner as to the state of her bowels, he informed me that nothing had passed her during the last forty-eight hours, neither had she ruminated.

I immediately abstracted six pounds of blood from the subcutaneous abdominal vein—administered a brisk purgative—well hand-rubbed and bandaged the legs with hay, and ordered a large bran cataplasm to be applied to the udder.

4*th.*—Still costive; and the pulse 50. She evinced great tenderness of the udder when she was compelled to move.

Having previously oiled my hand and arm, I introduced them into the rectum, and removed the hardened fæces. I then injected an emollient enema, and administered some linseed oil.

5*th.*—Abortion had taken place during the previous night. She had not cleansed, but was straining violently to expel the membranes: having gently assisted her with my hand, it was soon accomplished. Some tincture of opium and spirit of nitrous ether were administered in warm gruel.

6*th.*—Her bowels had been freely acted upon for the first time. She had eaten a bran mash and drunk some gruel. The udder is not so much swollen, but is extremely tender. Gently, but well rub in an anodyne liniment twice in the day.

7*th.*—She has ruminated a little in the course of the morning, and her general health has evidently improved. Continue the liniment, and administer a mild aperient composed of sulphur, magnesiæ sulph., nitre, and ginger.

8*th.*—Considerably better; continue the medicine.

11*th.*—I observed a sanious fluid discharging from the left posterior teat; but she evinced no pain on my touching the gland. Having minutely examined it, I found in the udder a circular line of separation about four inches superior to the teat. Having secured her, I dissected out the whole of the inferior portion of the gland, commencing at the line above-mentioned, and enveloped

the whole with a bran cataplasm. I ordered her a somewhat liberal diet, and gave her some gentian and ginger, with a small portion of wine.

In the course of a few days the remaining portion of the gland connected with this teat had sloughed away, leaving the remaining ones perfectly sound. I had now a simple wound to deal with, and treated it accordingly. She was discharged on the 4th of October, perfectly cured.

This case was accompanied by Mr. Hodges' defence of himself from certain charges of bad or doubtful practice on horses, brought against him in the Journal for December 1840, and November 1841, by Mr. Mogford. He must forgive us if we decline entering into the dispute between these gentlemen; but justice to Mr. Hodges compels us to state, that he has sent to us that which completely exonerates him from the charge of mal-practice.

Mr. Mogford had stated, that an action had been entered against him, at Mr. Hodges' instigation, for having, in his official capacity as inspector of horses, reported three to be glandered. Two of them, he affirmed, were since dead, and the other laboured under the disease in its advanced stage. In opposition to this Mr. Hodges adduces the following certificate:—

"In December 1839, Mr. Mogford called at my stables, with the constable, and after examining six of my horses, pronounced three of them glandered. Being reluctant to have them destroyed, without more fully ascertaining the correctness of his judgment, I consulted Mr. Hodges, who, on a minute examination of them, assured me that they were merely suffering from nasal gleet, arising from debility. For the satisfaction of myself and neighbours, I submitted to have the oldest and least valuable destroyed, which at once proved the fallacy of Mr. Mogford's assertion. The other two remained for a time under the care of Mr. Hodges, and, I am happy to state, are now sound, and at regular work, and worth, at the least, £35.

"I also sold a young grey horse to Mr. Owen, some months since, which Mr. Mogford also declared to be glandered. Mr. Le Page has since purchased him for £25, and he is now considered one of the best horses in our harbour.

"*December* 1*st*, 1841. "J. Dyson, *St. Sampoders, Guernsey.*"

A similar certificate is given by Messrs. Le Page & Co., with regard to the above-mentioned horse and two others.

We trust that this will be quite sufficient to satisfy Mr. Hodges. We must have no quarrelling among those who are devoted to the honour and interest of our noble art.

ACUTE GLANDERS IN THE HORSE.

By Mr. W. Ernes, *Dock Head, Bermondsey.*

An aged black gelding, in good condition, of the cart-horse breed, was bought of a dealer in the beginning of October. The near hind leg was much enlarged at the time of purchase, and it was thought that this might be considered a predisposition to farcy. There was not the slightest symptom of glanders at the time.

On the 16th of the same month I was sent for, as the horse did not feed well. After a careful examination, I could not find much amiss, though the horse was dull, unthrifty, and off his appetite. Laxatives and rest were prescribed; and, after a few days, the horse was put to his work again.

On the 3d of November the horse-keeper informed me that there was a discharge from the nose, and he thought the animal had a cold. I found the horse in better condition than when I saw him last. His pulse was regular, though weak—respiration was normal, and slight. The discharge from the left nostril was of a very suspicious character. Pimples were seen on the mucous membrane, towards the inner canthus, and on the septum nasi. They were about the size of a pin's head, and of a yellow red colour; but no ulcerations were perceived. The submaxillary lymphatic gland on the left side was also slightly enlarged and hard. I condemned the horse as glandered, and ordered him to be separated from the others.

In the course of the day an unsuccessful attempt was made to return him to the dealer. This occasioned an exercise of about seven miles. Shortly after his return to the stable, he was found to move with difficulty; his hind legs were swelled, the near or left one in particular. The swelling had extended to the sheath and posterior part of the abdomen.

On the 4th the swellings greatly increased—the pulse was weaker—the respiration normal—the fæces natural—urine in small quantity—the discharge from the nose stopped—the submaxillary gland and mucous membrane the same as on the previous day. The owner now conceived some hope, which I could not entertain; but, to satisfy him, fomentations were applied to the swelled parts, and mild diuretics and tonics were administered internally.

5th.—The swellings are increased and extended towards the chest. The other symptoms are aggravated. There is no discharge at the nose.

6th.—The swellings much increased, reaching towards the neck, the shoulder, and lower part of the head. The pulse is weak, with a slight febrile re-action. There is copious discharge from the left nostril. No ulceration on the visible part of the membrane, but the membrane is of a blackish hue. Respiration had become difficult, and the appetite, which, up to this time, had been little impaired, was now completely lost.

7th.—The swellings are of an enormous size. There is copious discharge from both nostrils, mixed with blood. The membranes on both sides are not only ulcerated, but there is sloughing in many places. The dyspnœa had now increased so as to threaten suffocation, and the pulse could not be explored on account of the swellings of the head.

On the 8th the animal presented a frightful object to the sight. I obtained his removal in the course of the morning, and thus an end was put to a scene which nature would otherwise soon have closed.

Autopsia cadaveris.—The effusion in the swelled parts was of a black colour, resembling oil paint, very sticky, and of a considerable consistence. The mucus of the nose was one mass of gangrene, and, in many parts, covered with the same black substance that was found in the swellings. The lungs were a complete mass of ulceration, and of the same black hue. The abdominal viscera were more or less affected, but all of a dark colour. The mucous membrane of the digestive tube was healthy throughout, accounting for the absence of diarrhœa, which is a frequent complication of this disease.

I have seen many cases of acute glanders, but have never met with a case in which the symptoms presented such frightful intensity, and ran their course in so short a time. I have described it as acute glanders, yet I am inclined to think that it should be classed with typhoïd glanders; in fact, this case bore some analogy to the typhoïd charbon in cattle.

Glanders are very prevalent in this part of the metropolis and surrounding country. Eight cases occurred last week in one stable, and I have met with a great many in the months of September and October. Perhaps some of your numerous correspondents will favour us with an account of what may have occurred in their practice.

A few statistical accounts of the prevailing diseases at the end of the year would be very useful to the profession.

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LECTURES ON HORSES.

By WILLIAM PERCIVALL, *M.R.C.S., Veterinary Surgeon First Life Guards.*

LECTURE I.—*(continued.)*

THE BACK AND LOINS.

"The back of a horse, to be a good one, should sink a little below the withers, but the other part should never be too low, but always straight. When the back is higher behind than forwards, he is apt to be pinched in his shoulders, which makes him both weak and unsightly; besides, his hind parts are rendered so heavy thereby, that he generally has an awkward clumsy gait, and moves but slowly. If a horse's back is too short in proportion to his bulk, and yet he is in other respects well built, he may hold out pretty well on a journey, but such are generally slow, and never make a good appearance; but if at the same time he is tall, and has very long legs, his worth is but trifling. If his back is a little arched behind the saddle, it is a sign of strength, and shews fitness both for hunting and travelling."—*Farmers' Dictionary.*

THE strength of arched structures is well exhibited in works of art. Whenever the architect requires great strength and resistance he adopts the form of the arch. Between the columns of spacious buildings he extends arches, by which their walls are rendered more secure in being bound together, and their roofs supported; and in the construction of bridges across waters of any extent, he employs an arch, or a succession of arches. That wonderful work, the Tunnel underneath the bed of the Thames, consists of a series of united arches of substance sufficient to resist the pressure of the superincumbent body of water, which at high tide is estimated at an almost incredible weight.

With all the strength and power of resistance of the architectural arch, the arcs of the spine possess a degree of mobility, enabling them to alter their figure, and to become larger or smaller,

elliptical or circular, according as circumstances require: a property that could not be given to the mechanical arch without rendering it unstable and detracting considerably from its strength. At the same time it is worthy of remark that, wherever there is any elasticity arising either from the materials of which the arch is composed, or from the nature of its construction, it is invariably found to possess, in consequence, increased powers of resistance. A happy elucidation of this is seen in the common violin, which, when strung up to concert pitch, has been calculated to be actually sustaining a force equal to eighty pounds; under the pressure of which it would certainly break were it not for its arched form and the elasticity of the material (very old seasoned deal) of which it is made.

From their mobility the arches of the spine not only derive the requisite elasticity, but likewise that self-regulating power which, under all changes, preserves their equilibration or undiminished strength. Dr. Hutton, in his "Principles of Bridges," tells us that the arch of equilibration, i. e. the one which is in equilibrium in all its constituent parts, is the only one which admits of a horizontal line across its top, and, in addition to being both graceful and convenient, possesses the advantage of being made higher or lower at pleasure, with the same span or opening. He adds, that the elliptical form of arch approaches the nearest to that of equilibration for strength and convenience. How strikingly and beautifully is all this verified in the fabric of the spine, and how wonderful it is that the structure should be capable of preserving its equilibration under all the various changes of figure and space which its arcs must, in the movements of the animal, be continually undergoing! Who but "the Divine Architect of the Body" could have framed and finished such a piece of workmanship?

It must be manifest that the mechanical powers of the spine, regarded either as a fixed or moveable body, must be affected by its length: and that there exist considerable variations in the longitude of spines, must appear self-evident to any observer of horses—not that there are any additional bones in a spine of unusual length; but that the vertebræ are of larger size, and their bodies and intervening cartilages are thicker. Some horses have very long backs and necks; some very short ones. Hardly any two have backs and necks of the same length; from all which result certain advantages and disadvantages. We will first consider the longitude of that part of the spine that forms the back, and in two points of view:—1st, as it affects the support of weight; 2dly, as it mechanically affects progression.

Regarding the dorsal portion of the spine with its super-imposed burthen as a pole or lever supported in front by the fore limbs

and behind by the back limbs, after the manner of a barrel of beer or a sedan between its bearers, it is manifest that the greater its length the greater must be the leverage, and consequent reduction of the weight of its burthen. On this principle, the legs of the long-backed horse are actually sustaining less load than those of the short-backed horse, even though their riders or burthens may be of equivalent weights, from the circumstance of their operating at a greater distance from the load.

But an important circumstance to be taken into consideration in the present case is the *flexibility* of the pole or lever—the fact of its being liable to *bend* under superincumbent weight, and of undergoing, in consequence, alteration in its figure, either from an arc to a straight line or to a reversed arc, whereby its mechanical powers became proportionably weakened. When a horse fails under too heavy a load, we do not find that it is the limbs that give way, but the spine. His back bends or *sinks* under the weight to the extent of its limits of flexibility, and then the limbs falter, and the whole machine succumbs. Did not the pillars of support yield either from Nature's warning, excessive pain, or from actual inability to sustain more, the spine would probably become fractured—not dissevered in its joints, for they are stronger than the bones themselves.

We now perceive the reason why horses with long and hollow backs are accounted *weak*. To a degree, they are so, beyond doubt: but it is a great mistake to suppose that horses for riding cannot be made too short in the back. Length in the back is attended with many advantages: the limbs have a lighter burthen to carry—the stride in progression will admit of being greater, and providing the hind limbs have length enough to reach forward under the load, the facility of forward motion will be increased: the chief disadvantages of such increased longitude, in progression, being the inability of the hind legs to reach the proper fulcral points underneath the machine, and the operation of the additional length or leverage in turning. We often hear excellent practical judges of horses saying, "a horse must have *length* to gallop;" by which they mean *length of back:* and, providing the limbs are proportionate in longitude and power, the observation is one which experience will shew to be correct. How frequently do we meet with horses with long backs reported to be, not merely fast, but strong galloppers in heavy ground, and able to carry great weights. I have known even hollow-backed horses have this character. I remember a hunter belonging to Captain P—, of the Guards, one, without exception, of the most hollow-backed horses I ever saw, and yet this horse, Captain P. who is

"A skilful horseman, and a huntsman bred,"

has, over and over again, assured me, was *in mud* a most capital horse after hounds; and, indeed, when we came to look at his points—when we perceived that he had loins broad and rounded, haunches fleshy, and thighs down to his hocks, it became no matter of surprise to learn that his powers, in spite of his hollowness of back, were so surpassing. Had he been made narrow and tucked-up in his loins, ragged in his hips, flat and thin in his thighs, and weak in his hocks, his hollow back would have proved an additional source of weakness to him, and rendered him, for all purposes where strength was required, every thing but worthless.

A short back is well adapted for the support of weight, and, from being combined with, as a sort of kindred make, broad loins and full hind quarters, is, with reason, regarded as a mark of strength: but it is disadvantageous for galloping. It will not admit of any great length in the limbs, for fear of their interfering with one another in action, or of one set over-shooting the other, and therefore, most wisely, it is combined with short legs, whose two strides amount to little more in extent than one of the long-backed horse's. Consequently, to keep equal pace, one horse must take three or four strides while the other is taking two. The short back is well suited to the dray or cart-horse, in whom we want not speed but strength; and strength not alone to bear burthen, but in draught. In heavy draught, in particular, length of body would prove disadvantageous to him, from the circumstance of the limbs being required to be longer and farther distant from each other, and from the step being greater than is compatible with the full concentration and co-operation of the bodily powers. The short step of the cart-horse or cob it is which enables him to husband and maintain his powers of strength while in action. A long step would, by the too great call upon those powers, tend to exhaust them; and, by repetition, render the animal incapable of proceeding with his load.

I have just observed that when the back is short the loins will be found to be broad and strong—what is called, good; a circumstance arising from the circularity of the chest and the breadth of the hips—these four formations, viz., shortness of back, circularity of chest, breadth of hip, and strength of loins, generally being found in combination. It is a great matter that a horse should have good loins, and when these are associated with a long back, and the requisite length and substance of hind quarters, we may take it for granted that the animal possesses both speed and endurance. Look at hares and rabbits, greyhounds, deer, kangaroos, and such-like animals, and note what thickness of loins, and length and muscularity of hind limbs they all exhibit; while their fore-parts amount to hardly any thing in comparative substance. It is impossible that a horse with thin narrow loins can hold in his gallop:

the moment he puts his feet in dirt, that moment will he fail. It is the good loin, as I said before, that can—and the only point that can—compensate for hollowness of back. The horse I quoted as, though hollow-backed in the extreme, being an extraordinary hunter, had one of the finest of loins; from which we practically learn that, when the loins are good, not length, nor even hollowness of back, are to be accounted objectionable points.

It is nonsense to pretend to prescribe that the back should be long or short, of this length or that; although we may, in a general way, fall in with the common description of what a back ought to be, and say, "that, to be a good one, it should sink a little below (behind) the withers, and then run straight." The back will be too long or too short, or (though, to the observer, of unusual longitude or shortness, still) of the proper length, depending upon the formation and dimensions of other parts with which, in structure and action, it is connected. A long back would ill accord with short legs, defeating their operation—a short back would not require long legs, they would do too much for it. We have, therefore, long-backed horses and short-backed horses, and yet with backs of proper length: because the longitude, whatever it may be, is that which is the suitable length for the machine of which it forms a part. A very common, but not the less, on that account, reprehensible custom among "judges of horses," is to find fault with a point, without any reference whatever to the general or particular conformation with which that point is consorted. Abstractedly considered, it may be one of proportion; but considered correlatively with out-of-proportioned other parts in the same frame, it may be in the best proportion, or of such proportion as serves to compensate for faulty dimensions in other parts. A part most faultlessly fashioned and proportioned may—placed among certain other ill-formed or out-of-proportioned parts—appear itself to be the faulty piece in the fabric. In an animal body, as in machines made by man's hands, the great object to be sought for is *harmony* between the constituent members: at the instant we are not hastily to condemn any apparent disproportion, lest, on critical examination, it should turn out to have been given for the purpose of compensation—to make amends for some defective structure elsewhere, which may not at first sight have struck our attention.

[To be continued.]

ON SPASM OF THE DIAPHRAGM.

By Mr. J. Beeson, *V.S., Amersham.*

In the June number of the last year, page 368, I read a case of abnormal palpitation of the heart, by M. Pastey Delivrande, occurring to a horse that, a few days previously, had recovered from an attack of colic. This case was regarded by that gentleman as a very extraordinary one; but the true nature of it, in my opinion, he does not seem to have understood.

Having met with some very similar cases, I venture to offer a few remarks on his, which I can only presume to do from a conviction that, whether I am right or wrong, it will be regarded as an effort to contribute to our general interests by the statement of some facts which have a certain relation to and may better explain M. Pastey's case.

The disease so well described by that gentleman was, in my opinion, a well-defined case of spasm of the diaphragm. A palpitation of the heart would, under all circumstances, be most distinctly felt in its immediate situation, and not at the flank. The beatings of the left flank are described as being very violent, while the action of the heart could only be felt as an echo of those beatings; or, as he describes it, not having behind the elbow where the beatings of the heart are usually explored, any thing but a somewhat more direct echo of the movement that was impressed on every part of the frame. The pulse was isochronous with the beatings of the flank.

It is a remarkable fact, that in every case of spasm of the diaphragm that has come under my observation, the pulsations of the heart and the spasmodic beatings have been exactly isochronous.

The spasmodic contractions always precede the heart's pulsation at about the same rate as the pulsation of the heart precedes that of an extreme artery, which may be distinctly felt by placing the left hand at the heart, and the right at the ends of the ribs.

This affection may exist partially or generally; and I have seen several cases in which the whole of the diaphragm has been implicated, but more violent on one side than another.

I have never seen a case that did not recover, except in one instance, in which this affection of the diaphragm was symptomatic. The patient died of introsusception of the bowels. In this case the spasmodic beatings commenced about six hours before the animal died.

It is, I think, always attributable to disturbed respiratory functions, resulting from violent exertion or otherwise.

My treatment consists, generally, of the administration of tinc. opii with spirit nit. eth.; or pulv. opii with camphor. Bleeding is sometimes necessary, and an aperient, as circumstances may require.

Quietude is indispensable in the treatment, as any excitement will aggravate the violence of the beating. Any sudden alarm will produce the spasmodic beatings after they have apparently subsided; but this will gradually diminish in violence, and eventually cease altogether.

THE DIVISION OF BOTH FLEXOR TENDONS IN A HORSE.

By Mr. Joseph Carlisle, *V.S., Wigton, Cumberland.*

The subject of the operation was a four-years-old horse, the property of Mr. Brindale, a coach proprietor in this neighbourhood, who, actuated by the feelings of humanity, purchased this miserable animal, and placed him under my care.

When he arrived at my establishment, the anterior portions of both fetlock joints were destitute of integument from the frequent abrasions received from contact with the ground, in consequence of the joint knuckling forward. I immediately put the horse under the necessary preparation for the division of the tendons,—bleeding from the toe, purging, and proper dieting; and, on the sixth day, I operated on both fore legs.

The horse being cast, I proceeded to make a longitudinal section on the inner part of the leg, from above downwards, in the direction of the bloodvessels, about three inches in length. I then separated the skin from the parts, and retained it by two hooks until I had carefully laid aside the bloodvessels and nerve. I next introduced a strong steel probe between the vessels and tendons, and then, by flexing the limb, the tendon was elevated above the skin and vital parts. At this place I introduced a probe-pointed bistoury, and cut about half way into the tendinous substance. Then, by turning the edge of the instrument, I carried it the whole length of the incision made in the skin, and separated the tendon from the surrounding substance, making a longitudinal section of the tendon. I then brought the leg to the proper oblique line, which I accomplished over the front of my knee, it requiring great force to separate it from the intervening

parts. The skin was brought together by three sutures. The operation was completed with the loss of comparatively little blood, and, apparently, with very little pain.

The horse was next placed in the slings, and bandages firmly applied from the knee to the foot, having been previously shod with shoes of the following description:—I had the shoes made to project about three inches posterior to the foot, and a cross-bar was welded from heel to heel, which I found a great support to the legs, and prevented the oblique position of them. The bandages were removed in about eight days after the operation, and the wounds properly dressed with mild detergents and digestives. The healing process went on without a single untoward symptom, and, in about five weeks from the time of the operation, the wounds were completely healed. The horse had walking exercise daily, a blister was applied to both legs, and he was sent home. This was in October last. I examined the horse yesterday. He is completely free from lameness, and stands well on his legs. He walks and trots as well as any horse.

It is not the rare occurrence of this operation which induces me to send this account of it for insertion in an early number of the new series of your valuable Journal. It has been practised again and again, but seldom with the same success, which I attribute solely to the system of operating, and which I consider to be a valuable discovery in veterinary surgery,—the skin being left entire, with the exception of a longitudinal incision united with the oblique method of dividing the tendons, the healing process was favoured, and the parts properly supported.

Forgive any imperfection in my account of this operation, for an accumulation of work prevents me doing duty to the subject; but I was determined to appear, if possible, in some of the pages of the new edition of your valuable Journal. The recent dissolution of the kind of partnership which had taken place will cause every tub to stand on its own bottom. I wish well to both parties; but, depend upon it, that our old periodical—the profession's pride—and its venerable Editor, shall have my feeble support.

REMARKS ON A DISEASE AMONG FOWLS.

By Mr. Thomas Clapp, *Borough.*

Well knowing that you do not confine your observations to the nobler animals of the creation, I beg to call your attention to the following fact connected with the feathered tribe.

A few days since a cock of mine died of the roop or pip. On examination, I discovered a tumour in the windpipe, which I supposed was the immediate cause of death. I opened the tumour, and found therein a quantity of matter.

A hen soon afterwards exhibited the same symptoms. I opened the tumour, but, thinking any further efforts useless, left her for dead, directing the boy to bury them together. Strange to say, on my return home in the evening I found her on the roost, apparently well; and she has been doing well ever since.

As there has been a great mortality among fowls, I think these remarks may perhaps stimulate some of your readers to give us a little information respecting the diseases of these animals.

I remain, with sincere good wishes,

Your old pupil,

T. C.

EXTRACTS FROM MY CASE BOOK.

By Mr. A. S. Copeman, *V.S., Walpole, Suffolk.*

LARGE WEIGHT OF SOME CALVES.

January 29th, 1841.—With considerable difficulty I extracted twin calves from a rather small Suffolk cow. They were carefully weighed. The first, five stones one pound; and the second, five stones. Total weight, ten stones one pound. She was sixteen days over the medium period of gestation.

SINGULAR STATE OF THE MAMMILLARY GLANDS IN A COW.

By the same.

November 28th, 1841.—I was called on to attend an eight-year-old very fine-looking cow of the short-horned breed for garget, if I may so call it. About four years previously, after repeated attacks of inflammation of her mammillary glands, she entirely lost their natural secretion, and has given no milk during the last three and a half years, though in that period she has produced three fine healthy calves. After each parturition slight inflammation of her udder came on, to which my attention was particularly called; and now, as on previous occasions, by proper treatment it soon subsided, but no milk or any other fluid could be drawn by the teats. She appears to enjoy perfect health, and is always fatter than the others who are fed in the same manner with herself.

A VERMINOUS DISEASE AMONG LAMBS.

By the same.

September 6th, 1841.—I was requested to look at a flock of lambs, about fifty of which appeared to suffer from violent diarrhœa. Two of the same flock having already died, I proceeded to examine them.

The first stomach contained only a small quantity of imperfectly masticated food. The second and third were contracted and empty. The fourth or true stomach contained only a small quantity of mucus and sand; but there were several large patches of inflammation on its villous membrane. The small intestines contained thousands of the folded tape-worm (*tenia plicata*), and about twenty-five of the large round worms (*ascaris lumbricoides*), with a large quantity—several ounces—of sand. I regret much not having weighed it. The villous membrane was in a stage approaching to sphacelus. Is this produced as follows? The vermis causing irritation of the stomach and intestines, induced by sympathy a depraved appetite (*pica*)—sand is licked up, and the effect of this foreign body on the intestines is inflammation and its sequelæ. This however is a mere conjecture of mine. The rectum contained chyme and mucus of a grass green hue. The other contents of the abdomen and pelvis were perfectly healthy, as were those of the thoracic cavity. I next examined the living animals, and found about fifty of them in a sad pickle about and under the tail, from frequently passing mucous fæces. The fæces were of a grass green colour, and not in the least fœtid or bloody. The animals ate but little food, and were usually found lying, evidently suffering much abdominal pain, and all of them reduced to mere skin and bone.

My first advice was, to make a total change in the diet. The following medicine was first tried:—ol. ricini ℥j, pulv. opii gr. iij, amyli. ℥j, aquæ bullientis q. s., fiat haustus. Thin starch, night and morning, was also ordered to be given.

7th.—The lambs are certainly better: continue the medicine.

11th.—The irritation of the stomach and intestines being to a certain extent removed, I ventured to give the following stimulant, for the purpose of destroying, if possible, some of the parasites: ol. lini ℥ij, ol. terebinth. ℥iv, fiat haustus. One dose only was given to some of them, others required two, and a few had three or four in the course of the following month, and then *all were well.*

This is blowing hot and cold with a vengeance, some will exclaim; but the result gave me the pleasure of saying "all's well that ends well;" for, on the day after the first draught was given,

large quantities of the worms were voided with their fæces. The draughts were given to a few until the fæces became of a healthy character. In one month from my first visit they had, to all appearance, perfectly regained their healthy condition. It perhaps should be observed, that they were pastured until a few days before I saw them on salt marshes by the sea shore.

Though these or my other communications may not be new to you or many of your correspondents, I hope you will consider them as an earnest of good wishes and intentions with regard to you, Messrs. Editors, and your invaluable journal THE VETERINARIAN.

A CASE OF AN EXTRA NUMBER OF TESTES IN A COLT.

By Mr. W. Cox, *Leek.*

THE case in a former number of THE VETERINARIAN of a mule having four testes, brings to my remembrance a colt of my father's which had three testicles. A common gelder was sent for to castrate this colt: he was a black one, a year old, of the cart kind.

My father and I stood by while the operator took away two testicles about the usual size. The colt got well, and was put with his companions. He shortly, however, began to shew the symptoms of a rig, and was put among the cows. He became so vicious among them, that we had him up, and examined him, and found another testicle.

The gelder was sent for, and took it away. The colt did well, and became docile.

He was castrated the second time two months after the first, and, so far as we can remember, the last testis was about the same size as the others.

STRINGHALT IN A COW.

By the same.

Mr. Booth, of Bradnop, near this place, has a cow now in his possession, which has got the stringhalt in the hind leg of the milking side.

Remarks.—Cows are subject sometimes to an awkward manner of walking with their hind legs, from having large udders, &c. But this is a clear case of stringhalt.

DESCRIPTION OF A CASE OF ACUTE FOUNDER IN A HORSE.

By Mr. J. Horsburgh, *V.S., Dalkeith.*

I send you an account of the following case, hoping, if you have a few minutes to spare, you will give me your opinion on the nature and general treatment of the disease.

On Saturday, a horse belonging to Mr. Farquarson, innkeeper here, was sent to Cranston, a distance of nearly five miles, with a one-horse coach and back; he was then run in a pair to Haddington, fourteen miles and back. When there, the driver went into the inn, and the horses into the yard, where, it seems, there were several pailfuls of cold water of which they took what they pleased.

On the following day Mr. F. came and told me that one of his horses was very badly foundered. I found him in a state of what I have always considered acute founder, and of the severest kind. He was standing with his feet under him (his hind feet particularly forward), breathing laboriously; the pulse 65, and the skin and extremities extremely hot.

I immediately bled him till the pulse was affected. I think that I must have taken away about eight and a half quarts. He was a strong horse, in good order. I then gave him a sedative ball composed of emetic tartar and super-tartrate and nitrate of potash, and repeated it in rather weaker doses every four hours with frequent enemata. I ordered cold poultices to the feet, and these to be kept constantly wetted with cold water. Moderate clothing and chilled water were likewise ordered. He drank the water greedily, and took a little bran mash occasionally. The action was very slightly reduced—the tail was vibrating, and the breathing extremely hurried—respiration amounting to 100 a minute.

On the next morning I bled him again to the full amount he could lose; I also bled from the fetlock veins, gave a mild dose of physic, and continued the alterative medicine, with the cold poultices to the feet repeated every ten or fifteen minutes.

I now began to be afraid of serious or fatal inflammation from the extreme action of the lungs, which had never abated, and, as a precautionary measure, I blistered the sides and belly extensively.

On the next morning the case seemed worse. A spasmodic twitching of the back and hind legs had taken place. I then gave a ball containing two drachms of opium, which had the effect of stopping the spasmodic action. He now lay down;

the breathing became considerably slower; the pulse was softer; and I must confess that I had some hope: but about 6 o'clock, P.M. the ears and lips began to get cold, and he died about 10 o'clock.

I considered this case from the first as one of acute founder, attended by excessive febrile action, and was perfectly aware that there was a general or diffused inflammation over the whole system. I was, too, right in the supposition which I had formed. I send you a portion of the liver, the apex of the heart, a kidney, and a small shred of the latissimus dorsi muscle to shew the extent of the inflammatory action; also a piece of lung, which you will find so completely softened as to assume the appearance of being rotten. The bowels were inflamed along the whole mucous surface; small patches also were on the muscular coat, a specimen of which I likewise send.

May I request that at your early convenience you will send me your opinion of the case? for *a friend* rather anticipated me yesterday morning in the post-mortem examination, and, when he found the lungs inflamed, troubled himself no more about the matter. Although he was privately in attendance during the whole time the horse was ill, and expressed himself perfectly satisfied that he was foundered, yet, when he saw the inflamed lungs, he immediately retracted his former opinion, and asserted that it was pneumonia, and made no scruple to say that I had totally mistaken the disease, and that through my bad treatment the horse had died.

Opinion by Professor Dick.

Sir,—I have considered the preceding statement, and examined the portions of the animal which you sent me, and have no doubt of the case being one of acute founder. I may safely affirm, that, in every case of founder where the horse dies, there is found a degree of inflammation of the lungs. They always suffer both in founder, and in every case of fever arising from irritation or severe injury in other parts of the body, and where the pulse and respiration are increased to any great degree, and continued so for even a short time,

I am, dear Sir, your's truly,
WILLIAM DICK.

[We introduce the following observations by Mr. Horsburgh, for an agriculturist beyond the Tweed may well be proud of the honours reaped by the northern cattle. The document which he annexes is a valuable one, and honourable to his

country; but the gathering of a few heads of cattle in opposition to the united strength of Scotland, would not afford any result as to the comparative value of the cattle of the two countries. The meeting was a friendly one—such may these meetings ever be!—Y.]

The annexed exhibits the Prizes at the late Show at Berwick, under the patronage of the Highland and Agricultural Society of Scotland; and as this Show may be considered as a trial between the two countries, we north of the Tweed may be justly proud of the result, so favourable to our skill in breeding and feeding.

Cattle.

Scotland 10 prizes, value £212; England 13, £162

Horses.

Scotland 7 prizes, value £120; England 3, £60

Leicester Sheep.

Scotland 7 prizes, value £100; England 4, value £65

Cheviot Breed.

Scotland 8 prizes, value £75; England 1, value £10

Other Breeds.

Scotland 2 prizes, value £20; England 2, value £25

Swine.

Scotland 3 prizes, value £14; England 1, value £4

In all

Scotland 37 prizes, value £541
England 24 prizes, value £326

Difference in favour of Scotland.... £215

A CASE OF GASTRITIS, PYROSIS, AND VOMITION.

By Mr. John Hughes, *V.S., Foley, Staffordshire Potteries.*

I was sent for on the 23d of Nov. 1841, to attend a black light cart-mare, sixteen or seventeen years old, the property of Mr. Glover, of the Mear. She had bred several colts, and was, up to

this date, in moderate farm work. I found her very ill. She was vomiting, per nasum, large quantities of a fluid similar to saliva in appearance. The pulse was fluttering, imperceptible to the feeling, and almost inaudible in auscultation. The external mucous membranes were pale and watery; the mouth and ears cold; the extremities of variable temperature; and she evinced great pain when pressed on the left hypochondrium. She frequently lay down and groaned.

Mr. James Glover had abstracted five quarts of blood from the jugular, and had administered a ball and draught supplied to him by a neighbour as a specific for all enteritic affections. She had been raked, but the dung appeared tolerably healthy.

Not knowing of what the ball consisted, I hesitated at first to prescribe for her; but seeing that she was getting worse, and that the ejection of the fluid increased, I ordered the following draught:—Ext. belladonna ʒij, acid. hydrocyan. ʒj, liq. potassæ ʒij, tinct. opii ʒvi, sp. æther. nit. ʒiij, aq. tepidæ Oj. I caused her sides to be well rubbed with an embrocation composed of liq. ammon. fort., sp. terebinth. et lin., saponis co. partes æquales; and to be kept perfectly quiet.

In twenty minutes after the administration of the draught, she not only appeared to be free from pain, but so great was the sedative influence of the medicine, that the mare was apparently asleep. She remained in this state about forty minutes, when she got up. Vomition had ceased, and she appeared more free from pain. The pulse was becoming more distinct, but still fluttered, numbering, as near as I could tell, about 70 or 74 per minute. I ordered the legs to be hand-rubbed and bandaged; some thin gruel to be put into her manger, and that she should be kept without dry food.

24th.—Better; free from pain; the sides tender; vomition has ceased from the time she had the draught; pulse 50, weak, and better altogether. Give acid. hydrocyan. ʒj, tinct. opii, ʒvi, sp. æther nit. ʒiv, aquæ Oj.

From this date, by the administration of sedative medicine, combined with diffusible stimulants, daily, she quickly recovered, but had not been at work more than three or four days ere she had another attack. By treatment similar to the above the mare soon came about again, though this was not so severe as the other illness.

In The Veterinarian for November last, page 348, Mr. Pritchard says, "Dogs and carnivorous quadrupeds vomit with facility; but it is exceedingly difficult in the horse." In another place he observes, "I think it possible, under states of dying collapse, when the vital energies of the frame are so far exhausted

as to no longer carry on the functions of the organic structures efficiently for the purposes of life, that internal convulsion may overcome the resistance of the cardiac orifice, much in the same way as those contractions to the sphincter of the bladder; and thus ejection of aliment from the stomach, through the nostrils or mouth, or both, or into the trachea, take place." Again, page 349, "but I never saw a horse fairly vomit the contents of his stomach."

From these passages I imagine that Mr. P. thinks horses never do really vomit, excepting "under states of dying collapse." That this case does not come under that head is proved by the animal's speedy recovery. A casual eructation will not account for the expulsion of so large a quantity of fluid per nasum, amounting to at least two buckets full.

FATAL CASE OF PLEURO-PNEUMONY, WITH EXTENSIVE EFFUSION INTO THE PLEURAL CAVITIES.

By Mr. James Igoe, *V.S., Dublin.*

The subject of the following case, a very valuable mare, the property of a Mr. S. became indisposed about eight or ten days previous to the period she had been placed under my treatment. At that time it was found necessary to abstract blood from her, and administer some febrifuge medicine, in consequence of a slight pulmonary attack she then laboured under. She had afterwards (as I understood) been turned out to work, but her owner not finding any mitigation of the symptoms about to take place, on the contrary, a marked aggravation of them taking place, he thought it at once advisable to have her sent to a veterinary surgeon.

The animal was admitted into my infirmary, and, on examination, was found to be labouring under the following distressing symptoms:—Accelerated respiration, and of a very laborious character as marked by excessive heaving at the flanks and dilatation of the nostrils; pulse quick, and of a wiry character; an occasional cough, which apparently produced much distress; head in a pendulous condition between the fore-legs; surface of the body hot and dry; coldness of the extremities; total disinclination to move about the stable, and an unsteady motion of the limbs when induced to do so; bowels in a constipated state; urine high-coloured and scanty; pressure over the sides of the

chest evidently produces much uneasiness; percussion over different parts of the thorax produces a sound of an exceedingly dull character, and the respiratory murmur is entirely absent.

Under these circumstances, the succeeding treatment was adopted: but in consequence of the fatal tendency which the complication assumed, before any remedial measures were employed to impede its progress, I was induced to believe that my patient would speedily sink under the oppressive load of disease that assailed her, despite of any effort on my part. In this instance I was but too truly borne out in my prognosis.

A large quantity of blood was immediately abstracted, which she bore tolerably well, and which, seemingly, afforded much relief. Counter-irritation over the lateral portions of the chest with the ordinary blistering ointment; laxative injections until the bowels have become acted on; stimulating frictions to the extremities, and, afterwards, the application of flannel rollers, together with the administration of a ball composed of protochlor. hydr. tart. antim. and kali were the means adopted. Pulv. digital. and nit. kali were given every six hours.

2*d day*.—Symptoms same as yesterday, but, if any thing, more aggravated in their character. Pulse slow and feeble. The bowels have been relaxed. Continue the medicine.

3*d day*.—Considerable prostration of strength has taken place. Respiration very oppressive; pulse small and almost imperceptible. A cold clammy perspiration invests the entire surface of the body; the kidneys have become engorged, as she has voided some bloody urine during the night; the bowels acting too freely. Medicine discontinued; warm clothing thrown over her, and stimulants internally administered.

From this period until the night of the fourth day, my patient's sufferings progressively increased, until death ultimately released her from their influence.

Post-mortem examination.—On carefully opening the thoracic cavity on the succeeding day, the following morbid appearances presented themselves:—Lungs in a collapsed state, and literally deluged in the mass of fluid that surrounded them, amounting in quantity (by computation) to at least five gallons, or thereabouts, of a sero-sanguineous character, and exhaling a very disagreeable odour: shreds of detached lymph were observed floating through it; adhesions were formed between the opposing surfaces of the pleural sac at different points by bands of pseudo-membrane, presenting an exceedingly irregular appearance; masses of unorganized lymph were here and there pendant from the pleura costalis, which tissue bore traces of an inflammatory action to a very considerable extent; a portion of the left lung was in an emphy-

sematous state, and, on cutting into the substance of the right one, it presented one of the best illustrations of hepatization that I think I ever beheld. The heart retained its normal size, but the serous investiture of the left auricle and ventricle shewed traces, if not of inflammatory action, at least of much functional derangement; the abdominal parietes were enormously swollen, in consequence of the stomach and intestines being distended with a large quantity of gaseous matter; the liver was gorged with bile; the stomach and spleen were in a healthy condition; both kidneys were in a state of sanguineous engorgement; large patches of ecchymosis were irregularly spread over the entire surface of the bladder.

Amongst the many forms of disease to which the animal economy is subject, I believe it may be pretty generally admitted that structural complications are the more fearful to encounter, as well as being most commonly fatal in their results—particularly when those remedial agents of which we are in possession have been untimely, and consequently inefficaciously, employed in attempting to counteract the impending evil.

In the preceding case, the pathognomonic symptoms that characterise effusion into the cavity of the chest, to a large amount, were particularly well marked; the chest became perceptibly enlarged; the intercostal spaces were scarcely any longer discoverable; the ordinary clear resonance on percussion was no longer present, and the respiratory murmur was altogether absent. In proportion as the fluid augmented in the cavity of the chest, considerable exhaustion of vital energy ensued, until the powers of life were completely destroyed.

That peculiar "bubbling sound," which some enlightened veterinarians view as an unequivocal characteristic of pleuritic effusion, could not at any period be elicited in this case; neither have I been so fortunate as to be able to discover it in any instance as yet. It must, in my opinion, be of very rare occurrence, particularly when we know the physical condition in which the effused fluid must be circumstanced before such a sound could be possibly produced. Mr. Percivall, in his admirable work on Hippopathology, states that such a sound can only be produced when air or gas exists in combination with fluid in the chest.

Gentlemen, should the foregoing case be sufficiently worth insertion in your invaluable periodical, it is quite at your disposal, making such corrections, at the same time, as you may deem necessary.

It gives me much pleasure to observe the independent manner in which the New Series has been launched forth. The great

mass of useful and interesting matter that is promised to be developed in the forthcoming Numbers, must justly entitle it to that patronage and esteem it so truly merits from every member of the profession.

A CASE OF IDIOPATHIC HYDROPHOBIA.

By J. Kimball, *Esq.*, *M.R.C.S.*, *Knowle.*

[We insert this interesting case on account of its analogy to those which occasionally come under our notice with regard to another animal.—Y.]

W. K., aged twenty-four years, of a bilio-lymphatic temperament, has, during the last month, suffered from occasional attacks of palpitation of the heart, occurring generally in the night, and invariably followed by profuse perspiration.

On October 4th, 1841, he rode a distance of fourteen miles, and, on arriving at the end of his journey, at about twelve o'clock at noon, he was suddenly seized with great difficulty of breathing, pain over the region of the heart, and painful sensation over the chest. The paroxysm continued for a few minutes, when the dyspnœa and pain gradually subsided. He afterwards ate a good dinner, and appeared as well as usual, until about eight o'clock in the evening, when all the symptoms returned with greater violence than before; and to so distressing a degree did the dyspnœa increase, that there appeared to be imminent danger of suffocation. He was now bled to eighteen ounces, but without any manifest relief, and the operation was repeated in three hours to the amount of six ounces, which had the effect of considerably relieving the pain.

About five A.M., October 5th, I saw him; he could not speak, although conscious of what was passing around him. I was informed that he had had violent convulsive movements of the arms which had lasted nearly an hour, and he now appeared to be suffering from spasmodic constriction about the glottis and pharynx, causing extreme difficulty of inspiration, which had a peculiar crowing character. He had likewise a great desire for water, and complained much of thirst. No sooner, however, was this fluid brought into his presence than it was obliged to be withdrawn; the sight of it causing alarming increase of pain about the larynx, with a horrible feeling of suffocation. When the water was removed these symptoms became ameliorated.

From so many hydrophobic symptoms being present, I was apprehensive that he might have been bitten by a dog, and therefore questioned him on the subject very closely; but to all my interrogations he shook his head negatively. During the intervals of ease his pulse was full and soft, and averaged eighty beats in a minute; his tongue was clean, the bowels were regular, and the skin of the natural temperature.

Aware that there was a predisposition to spinal disease, I examined the back, and found about the lower part of the cervical region tenderness on pressure, and I observed that *this pressure invariably produced* an exacerbation of all the symptoms. Of this I fully satisfied myself and my patient likewise, by repeating the pressure three or four times.

A blister was applied over this spot. It rose well; and he soon became able to swallow. Doses of opium were given by the mouth, and an opiate injection was administered per rectum. I should have stated that, from the commencement of the attack up to the present period, he had experienced a great difficulty in passing his urine, but none in voiding his fæces.

5th.—Much improved in every respect, but when his head was raised the spasm was speedily reproduced. He had a constant smacking of his lips, and frequent twitches in his legs and feet: the right arm was partially paralysed; no headache; no confusion of intellect.

7th.—Still improving. The spasms had entirely disappeared; he could swallow fluids with the greatest ease. Tongue clean; bowels well opened; secretions healthy: he can now be raised without suffering; the blister discharges freely. The dorsal region was rubbed with an embrocation, containing croton oil, tartar emetic, &c., and quinine was given during the day, with henbane at night. From this period he gradually progressed, and at the end of a month was thought sufficiently improved to resume his avocation.

One day, however, previous to his intended departure, he had a recurrence of the dyspnœa, but in a much less degree than before. This was immediately treated by the application of leeches to the cervical region, followed by a blister; when all the symptoms soon vanished. He has two issues, one on each side of the cervical vertebræ, which discharge freely; and he may now be considered convalescent.

Lancet.

ALBUMINOUS URINE.

By Mr. John Markham, *Rugeley.*

I hereby send you a rather curious case of a horse voiding albuminous urine, this being the fourth time, at intervals of from five to six months, that he has had similar attacks, and each attack being more severe than its predecessor.

Oct. 23*d.*—I was sent for in great haste to Mr. Tompson's, of Bromly Hurst, the owner being afraid that the horse would be dead before I could get to him. Mr. Tompson told me that he heard the horse come into the stable-yard, in the middle of the night, from the others that were in a field close by; and when they got up in the morning they found him in great agonies, and rolling about in the stable-yard.

When I arrived he was a little easier, having staled, and nearly half a pound of the urine was hanging from the penis, thicker than calf's-foot jelly. The pulse was a little accelerated.

Venesection was had recourse to, and about seven quarts of blood taken from him. A strong cathartic was then administered.

He did not flinch from pressure on the loins; but, on examination of the renal arteries per rectum, I found them throbbing very much. I could feel more difference in the pulsations of the renal arteries in this horse, and another one that stood beside him, than ever I felt in a horse's leg that was very much inflamed.

I make these observations on account of seeing, in Mr. Percivall's "Hippopathology," that some of the members of the medical profession do not consider that a person making albuminous urine must, of necessity, have organic disease of the kidney.

I am of opinion that this horse—twelve years old—has a chronic disease of the kidney, which now and then assumes an acute form, at which time the urine is so thick that the horse cannot void it, which causes those colicky pains; for as soon as he has voided his urine he appears much easier.

After venesection, and the operation of a cathartic, followed up for three or four successive days with antimonial alteratives, he appeared and worked as well as any of the other horses, and voided his urine with perfect ease. I boiled the urine that was hanging from the penis, and it coagulated similarly to the white of an egg, but was rather darker coloured.

A CASE OF RUPTURED COLON.

By the same.

Nov. 9, 1841.—I was sent for to Mr. Carr's training-groom, at Hednesford, at ten o'clock in the morning. When I arrived Mr. Carr told me that they found this horse, at six o'clock, rolling about in his stall, and the perspiration dropping from him. He considered it a case of colic, and gave a dose of ol. tereb., and had him walked about; but, the pain not ceasing, he bled him and gave opii tinct. ℥j. He then considered it a case of intro-susception, and their blacksmith, who is also a farrier, happening to be there, considered it to be a *twist of the gut.*

Symptoms.—Pulse full, about 45 per minute; ears, legs, and mouth, rather cold; abdomen hard and full, especially the iliac regions; lying down and rolling; groaning, and looking at his flanks; after which he would get up and stand two or three minutes, draw his penis, and stretch himself as though he was going to stale; his skin was covered with a cold clammy sweat.

I gave him opii pulv. ʒij in gruel, and raked and clystered him. I found one lump of fæces in the rectum, very hard, but not coated with mucus. The bladder was not full of urine, but gave much pain when pressed upon.

I had him well clothed and a hood put on him, and ordered him to be walked out. He walked very sluggishly when he first went out, but more freely after he had walked about a short time. His skin got quite dry while he was out, and he did not once appear to want to lie down, although he was from the stable nearly an hour; when, however, he came into his box he lay down and looked at his flanks, but did not offer to roll. He appeared fatigued, and heavy and dozing.

No fæces being evacuated, except what I raked from the rectum, I gave him some castor oil, and clystered him every hour, and had his abdomen well fomented.

After this he did not appear to have any acute pain, but would walk round the box, hanging his head down; at other times resting it on the window-sill; then stretching himself out and drawing his penis, but seeming unable to void his urine. I consequently drew it off with the catheter. There were about three quarts, very high-coloured, and rather thicker than natural. He appeared somewhat easier after this.

An hour after he had been in the stable, voiding no fæces, I had him walked out again. He walked very freely, not requiring any person to go behind him. His symptoms continued nearly the same until seven o'clock, no fæces coming from him, nor would he take any water. He was then walked once more, and I could, while walking by his side, hear the fluid in the abdomen.

The man that led him also said his bowels were rattling; we, therefore, expected that his physic would soon purge him. He appeared free from pain, and walked as well as he had done any of the other times that he had been out during the day.

I had him brought into his box, and told Mr. Carr that I was certain there was a rupture of some part. He had not been in the box many minutes before he appeared to have lost first the use of one hind leg, then of the other. He began to reel, and fell, or rather sat, on his quarters. He made several ineffectual attempts to raise himself, and then fell on his side and struggled a little, and died at eight o'clock.

Examination, at eleven next morning.—I found in the abdomen a great quantity of fluid and fæces. The cæcum appeared like a blown bladder, and contained no fluid. The colon at its sigmoid flexure had a rupture about seven or eight inches in length, its peritoneal tunic was much inflamed, and, just round the edges of the rupture, it was in a state of gangrene. The stomach was full of half masticated hay and whole oats, and the villous coat was slightly congested. All the other viscera were healthy.

What was the cause of the rupture? The horse was doing gentle work. He was what is called a half-bred or cocktail; i. e., they could not prove him thorough-bred. He was three years old, and intended to hunt a few times this winter, so as to qualify him to start for the hunters' stakes next year.

I can account for it no other way than this. In his stomach and intestines I should think there were, at least, a peck of oats that had not been crushed at all by the molares. Their sharp points might cause a great deal of irritation, and, while the horse was struggling, the part might become ruptured. His molares, were sharp on their edges, and had cut his cheeks very much in his endeavours to masticate his food.

SEVERE CASE OF COMPOUND FRACTURE OF THE LOWER JAW OF A HORSE.

Treated by Mr. MAVOR, *V.S.*

[Communicated by Mr. KERR, V.S., 40, New Bond Street.]

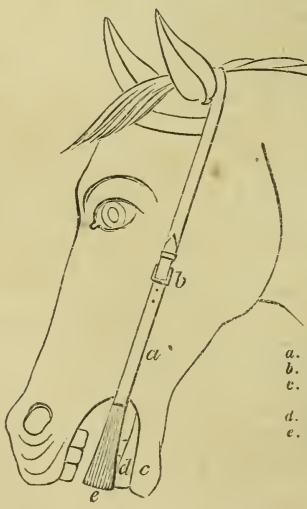
A BAY gelding, the property of Thomas Hood, Esq., was admitted into Mr. Mavor's infirmary, on the 13th of October last, with compound fracture of the lower jaw. The accident was occasioned by the horse getting his incisors entangled in the latch of the stable door, and the force used to extricate himself produced the mischief in question.

The injury took place within half an inch of the first molar

tooth, and, when effected, the position of the jaw, which was hanging pendulous, supported only by the soft parts, will prove the severe nature of the fracture. On the near side the fracture was a little oblique; on the off, transverse. The depression of the incisors at the time of the fracture would, of necessity, raise the fractured ends; while on the near side the bone was forced into the mouth, thus making the fracture compound.

The difficulties to contend with in the treatment of the case were many,—perfect quietude to maintain the ends of the bones in perfect apposition—the irritating consequences of a most offensive salivary secretion, insinuating itself through the lacerated soft parts into the interstices of the fractures and lacerated structure, thus greatly tending to engender an unhealthy condition of the secreting vessels; and, lastly, the difficulty of supporting the system.

To support the jaw and place the broken bones in the most favourable position for reunion, Mr. Mavor had constructed a leathern case, similar to those used in the medical profession for fractures below the elbow. This, after a short trial, was set aside as not fulfilling Mr. Mavor's views, and a strap of a very simple construction, but which answered the purpose admirably, took its place. The following is a rough sketch of its adaptation:—It was nothing more than a common strap and buckle, with an extra piece of leather stitched on, of sufficient length to embrace and support the incisors; the ends of the strap were carried up on each side of the face, and secured to the upper part of a common bridle, the bit being previously removed.



a. Point of fracture.
b. Buckle.
c. Lower lip drawn back to shew the position of the strap.
d. Gum.
e. The case covering and concealing the incisors.

In about five or six days from the occurrence of the accident very considerable tumefaction, subjacent to the fracture, took place, and various abscesses formed, giving exit to their offensive contents, in which there was no indication of healthy action.

The peculiar fetor was quite indicative of what was going on, namely, exfoliation of bone. Upwards of six weeks had now elapsed, and union had not taken place.—*Nature, however, was busily though silently at work.* In a short time the absorbents had completed their task, and a considerable portion of bone was exfoliated. The pus, becoming laudable, told us that all was going on well, and the cure was completed by another set of labourers cementing the disunion by the secretion of healthy ossific matter.

The mouth, which was very offensive, was frequently during the day cleansed with an antiseptic, and the ulcers injected with the same.

The constitution during the whole of this time was supported with thick oatmeal gruel and bran, which the poor animal gratefully received by means of one of the many valuable inventions of Mr. Read, of Regent Circus. It was conveyed from a bucket beneath into the back of the mouth by one of Read's stomach-pumps, the head being carefully raised by means of a pulley during this operation.

Jan. 1st.—The patient has been discharged nearly a week, quite capable of masticating his food. It will be prudent, of course, to allow sufficient time for consolidation before a bit is put into the mouth.

I shall make, Mr. Editor, no apology for thus troubling you, feeling assured you will deem the case worthy a nook in your Journal.

It is highly instructive, shewing how much, even under very disadvantageous circumstances, Nature can effect, judiciously assisted.

May I beg to express a hope that The Veterinarian will not materially suffer, or your interest be affected, by the late operation of amputation? *The root may grow the stronger.* I trust that it will.

ON BROKEN WIND IN A COW, AND THE GENERAL NATURE OF THE DISEASE.

By Mr. Warne Raddall, *Plymouth.*

Having within the last few weeks seen a novel case, and one, in fact, whose existence is, I believe, denied by many eminent practitioners, I beg to send you the following account of it.

Having been called to see a horse, the property of a respectable farmer a few miles from hence, that had, in taking a fence, lacerated the extensor tendon of the near hind leg where it passes over the fetlock joint, on my arrival in the yard, I found that they were milking the cows. The first cow that I had to pass by was an old Jersey-bred one. It was standing ruminating, but I was struck with the very embarrassed state of its breathing.

While I was thus engaged in watching the old cow, the owner came, and hurried me away to the stable to see the horse. Having gone through the necessary manipulations there, I was again anxious to visit my horned friend. She certainly ruminated naturally enough, and appeared to be in good general health, and her inspirations were performed with apparent ease; but the expiration was a laboured, forced, or jerked one—in fact, precisely resembling the breathing of a most intensely broken-winded horse.

I inquired how long she had been in this state, and was told that some months ago she had had a cough, and the quantity of milk that she yielded was much diminished. I likewise was informed that I had prescribed for her, but did not see her. I found, on referring to my note-book, that, from the owner's description, I concluded it was chronic bronchitis, and prescribed accordingly. She had the medicine which I sent; the cough abated considerably, and the secretion of milk returned as before, or nearly so: but she had occasionally coughed ever since, and for a month or two the owner had noticed something strange in her breathing; yet, as she gave her milk in full quantity, and did not appear ill, he had thought nothing more about it. I have paid her several visits since that time, and the same phenomena are still evinced; in fact, it is a decided case of broken wind.

I believe, and indeed I am sure, that they who have ventured to assert that this is a lesion or disease that does not exist in horned cattle, were they to see the case in question, would admit its existence. She is now at grass, and in calf; but the present owner tells me he intends selling her when she has calved. I shall not, I hope, lose sight of her; and if she should be fattened and slaughtered in this neighbourhood, I will examine the lungs, and indeed, all the viscera, the result of which I shall feel proud in forwarding to you.

Perhaps, Sir, you will not think it out of place for me now to hazard an observation or two relative to broken wind, as it is designated. That the term is vague, and, in many cases, totally inapplicable, I need not in the present advanced state of veterinary knowledge assert; for, certainly many cases exist in which there is no rupture or broken air-cells. I am somewhat of opinion

that in many cases it is a nervous or functional and not a structural derangement that is the cause of this disease, or, *possibly*, some cases are really not disease of the air-passages at all.

I am induced to express the opinion I now do from practical observation. It is common with horsedealers of a low class to purchase broken-winded horses at a low price, and *set them*, as they term it, and re-sell them at the country fairs, apparently sound, from the temporary effect of various articles they administer to them by way of deceiving the public; and so tranquil do they render their breathing for the time, that, even on the horse being galloped, many excellent judges have been deceived and sadly mortified on the following morning.

If the disease be the result of alteration of structure, how comes it that a few balls of hog's lad, linseed-oil, or digitalis, &c. &c., produce such decided temporary relief? That such effects follow, surely no one will deny; yet the structure is neither repaired nor renewed. Then, Sir, what am I compelled to believe? Why, that in all cases where such marked benefit is derived (and I never heard of a case yet where those articles did not produce the effect of tranquillizing the respirations) the disease is either sympathetic, nervous, or seated in the digestive organs.

I have observed horses, particularly hunters, after having been kept in the stable for two or three years, if turned out at grass, frequently become broken-winded. What is the cause of this? Is it in consequence of a diseased state of the alimentary canal? —or is it a relaxed or debilitated state of the parenchyma of the lungs, induced by the change of diet, grass being much less nutritious than his usual stable diet?—or, is it to be attributed to the exposure of the surface of the skin to the action of the atmosphere?

I think the disease in question has been viewed in too mechanical a light. It is very easy to state that broken-wind is the effect of ruptured air-cells, or emphysema of the parenchymatous structure of the lungs. That such lesions do occasionally exist, I will not deny; but I believe that in the majority of cases they are an effect, and not a cause. For instance, on looking at the jerking action that takes place in the respiration of broken-winded horses, I can readily conceive that, in such a delicate tissue as the membranes surrounding the air-cells are known to be composed of, such heaving action would be likely to break down the membranes; and thus those appearances noticed after death may be, in reality, an effect of morbid action, instead of a cause of it. Is it a loss of power in the diaphragm, or intercostal muscles connected with broken-wind?—or is not its seat in the

alimentary canal? I believe that asthma, in the human subject, is often considered to be a disease attributable to the viscera of the abdomen, viz. the stomach, liver, &c.

How far the disease in the horse, denominated broken-wind, and asthma in the human subject, bear an analogy to each other, it is not for me to decide at present; but certainly there are results from our treatment that would lead one to this analogy. We all allow that light grass diet very materially relieves the respiration of a broken-winded horse—changes of atmosphere also operate to a considerable extent, greater, in my opinion, than we can account for by viewing the character of the disease as merely a structural one. I trust, however, that this subject will be taken up by abler hands than mine.

I am, &c.

A SINGULAR CASE OF PARTURITION IN A SOW.

By Mr. Samuel Ramsden, *V.S., Ripon.*

Although the above is not of very recent date, I beg to forward it, thinking that you may consider it worthy of insertion in The Veterinarian.

About the middle of August 1840, I was summoned to attend a sow, which for two days had been labouring under the act of parturition. It being a very unusual circumstance to assist this animal in such a case, I felt some hesitation in attempting to extract the pigs. The sow could not rise, and seemed to be in great suffering. The owner, however, urged me to relieve her, and save some, if not all, of the pigs.

I anointed my hand, and assisted her in extricating one. I then gave her some gruel, and left her for the space of three quarters of an hour, hoping that she would be enabled to effect the parturition of the rest without aid.

On my return the sow appeared perfectly senseless, and the young pig was at one of the teats endeavouring to suck. Her parturition was not in the least advanced, and I found it necessary to assist her again by pressing with my left hand immediately over the diaphragm, which caused the sow to strive to force on her pains a little, and enabled me to introduce my right hand gradually and more easily until I reached the second pig. It lay about four inches anterior to the pelvis, and hence I found the difficulty of the animal doing without assistance. In fact, she still continued in the same stupor, except when I forced her to

pain herself, if I may so express it. In this way I brought away the whole litter of ten pigs, and also the p acental membranes.

I ordered a simple diet for twenty-four hours, and afterwards a more liberal one. The pigs, which were very fine ones, all lived, and, with the mother, did well. This case may appear a simple one; but from its unusual occurrence, and its being the first and only case of the kind I ever saw or heard of, I deemed it my duty, as long a constant reader of the THE VETERINARIAN, to bring it, with your permission, under the notice of your readers.

RABIES IN A DOG.

By Mr. FRED. SEWELL, *V.S., Park-street.*

A ROUGH terrier, the property of a gentleman residing in Hyde-park Square, was observed on the 9th January 1842, to be dull and restless. On the two following days he grew worse, and on the 11th he was seen to stagger in his gait, and to have lost the sight of one of his eyes. We were then consulted about him.

The symptoms were, a staggering gait, particularly on the right side of the body; the eye of the same side quite opaque, and of a dirty blue colour; the other eye natural: the respiration was increased, and it was accompanied by a harsh grating noise, slight at first, but more evident as the disease progressed. He occasionally vomited, and swallowed with difficulty. It struck me when I first saw him as being a case of rabies, although I did not consider it a very marked one; but my father thought it a case of partial paralysis, which might have been induced by a blow on the head or some internal lesion. One side of the head appeared rather swollen, and there was no paralysis of the muscles of the jaw; no strabismus of the eyes; no delirium or watching of imaginary objects; no depraved appetite, nor any disposition to bite unless disturbed for the purpose of treatment.

He was bled, and an emetic administered. The bleeding appeared to relieve him at the time.

On the next day the beforementioned symptoms were more intense. The respiration was more frequent; the noise that attended it more evident; the staggering was also increased, and the difficulty of swallowing was greater. When he lay down he seemed disposed to rest on his belly, and once or twice raked some straw under him. To-day he also barked several times, apparently in an involuntary manner, but did not howl. The other symptoms, as those mentioned above, and many others

which usually attend rabies, were absent. A seton was placed in his neck, and a dose of purgative medicine administered. A few hours afterwards he died.

The post-mortem appearances presented a mass of inflammation. The stomach contained a dark chocolate fluid. Its interior was inflamed throughout, particularly the pylorus, and the inflammation extended more or less through the small intestines. The trachea, bronchial tubes, and lungs, were much inflamed, and the bronchiæ contained a large quantity of bloody spume. The larynx, pharynx, epiglottis, &c. were more or less discoloured by inflammation, and the tongue was of a clayey colour. The membranes of the brain were much injected, and the medulla oblongata was moderately so. In your opinion, was this a case of rabies? Is there such a disease as hemiplegia, or partial paralysis in the dog?

This was, in my opinion, a case of decided rabies. *Paraplegia* frequently occurs in the dog, but I do not remember to have seen a single case of *Hemiplegia*.—Y.

SINGULAR CASE OF PSOAS ABSCESS IN A MARE.

By Mr. Joseph Sewell, *London.*

On looking over some old records of practice, the subjoined case appeared to me not only uncommon in occurrence, but somewhat interesting in its pathological history. Should you think so too, it is quite at your service. You have it as it occurred to me and my relative, Mr. James Sewell, at St. Albans, while in practice together some twenty-five years ago.

The subject was a black cart mare, the property of Mr. Wm. Ward, a farmer in the neighbourhood of St. Albans. Mr. Ward had been on a visit to a friend, Mr. Mew, and had bought of him two cart mares heavy in foal.

One of them, the subject of this case, as was remarked and pointed out by Mr. Ward at the time of purchase, had someold scars on each side of her loins, the origin of which Mr. Mew said he knew nothing about.

As the mares were near their time of foaling, it was agreed that they should remain with Mr. Mew until foaled, and then be delivered to Mr. Ward at St. Albans, which was accordingly done within a month after foaling.

In the course of a week or two the foal was observed to be very

thin, and the mare was drooping and short of milk. Her pulse was very full, and 60. There was evident constitutional disturbance, for which we were at a loss to account. She was out at grass, and very little was done to her with the exception of bleeding and the administration of a cathartic.

Very little change took place for nearly a fortnight, when a swelling shewed itself over the loins on the near side, and which continued to increase for several weeks, while the milk became so diminished in quantity that the foal was obliged to be supported by other means.

With the assistance of fomentations and embrocations the swelling was brought to suppuration, and evidently pointed. An incision being made, an immense quantity of thick inspissated pus was evacuated, and which kept up a continual flow as from a fountain, in spite of all injections or any other means we could adopt. At length I determined to trace, if I could, the direction and depth of the sinus, and I found that it came from between the transverse processes of the lumbar vertebræ.

This left no doubt on our minds of its being a psoas or lumbar abscess; and, accordingly, as all our patience, and our patient too, were nearly exhausted, we advised her being destroyed.

The post-mortem examination displayed to our view three large abscesses situated in the psoæ muscles—one on each side the spine, and the other extending to the insertion of the psoas magnum beneath the diaphragm; all communicating one with the other, and discharging their contents through the sinus above described.

The pathological view we took of the case was this: The magnitude of the abscesses, and their tough and thick coverings, connected with the old cicatrized wounds on the loins, seem very conclusive of the existence of the abscesses prior to the mare being in foal, and that during the period of gestation their growth became suspended, and the wound healed; but after parturition the abscesses again resumed their action, and discharged their contents as above described. This would shew the incapacity of the system to support two distinct morbid actions at the same time.

REPORT ON THE EPIDEMIC AMONG CATTLE.

By Professor SEWELL.

[Extracted from the Journal of the Royal Agricultural Society of England.]

THE Veterinary Committee of the Royal English Agricultural Society having, in compliance with a resolution of the council, sent a circular to each member, containing queries for information on the nature and extent of the prevailing epidemic among cattle and other domestic stock, have received nearly seven hundred communications which may be generalised, as in the following Report:—

The disease had not made its appearance in England before the summer of 1839, and, with few exceptions, had broken out in the stock of those members who have sent communications, and the information is mostly confined to what occurred on their own farms and premises.

Some members state that it prevails in their immediate neighbourhood, and others at several miles' distance. It is generally reported not to have prevailed extensively before 1840, and then to have attacked all kinds of stock indiscriminately, even poultry, dogs, cats, and deer. Influenza, by some called distemper, catarrhs, and sore throats, prevailed much among horses, before the epidemic, during its prevalence, and after it had ceased, and pulmonary diseases proving fatal in several cases.

As far as situation, nature of the soil, and general features or aspect of the country, are described, no exemption from disease is recorded, whether mountainous, hilly, flat, wooded, or open, dry or damp, intersected by rivers or canals, or in the vicinity of marshes, ponds, ditches, or any stagnant waters.

It has been attributed by some to the prevalence of east or north-east winds; others supposed it induced or brought by the south and west winds. Some are of opinion it has been produced by fogs, and abounded more in valleys, on the banks of rivers, and low damp situations; others attribute the outbreaks to communication by the herdsmen, shepherds, or persons employed.

Its attacks appear to have commenced, whatever was the quarter from which the wind blew, and under all temperatures, throughout the year, commencing and ceasing at uncertain periods; and the disease did not vary in its symptoms except when the atmospheric temperature was highest: then inflammatory action was more intense, and the disease more fatal, especially among ani-

mals that travelled to fairs or markets; by which it was introduced into premises and farms heretofore exempt, and thus became disseminated in healthy districts. Fever was increased by fatigue in travelling.

The feet became acutely inflamed, causing the hoofs to shed or exfoliate, and many animals were in consequence slaughtered on the roads.

Young animals appeared to be more exempt from attacks than the full grown; but in comparing the number affected, it was more fatal, and often more speedily so, in them than in the adult animals. The house and exposed stock of all ages and conditions were equally subject to attacks from general causes. In some cases, supposed to arise from infection or contagion, the symptoms appeared as early as the second day; in others several weeks elapsed after exposure to infection before they made their appearance.

One correspondent states that himself and all his family and domestics were attacked on the lips and in the mouth in consequence of using the milk of his diseased cows; and that a foal living with them had an attack of farcy and glanders, of which it died.*

The disease generally commenced in the mouths of bullocks, cows, and calves, by the appearance of blisters and ulcers on the tongue, and sore throats in some; the feet at the same time, or very soon after, became ulcerated, as also the palate, lips, and nose. It was accompanied by rigors or chills, succeeded by feverish heat. The noses and feet of pigs were attacked, but the feet only of sheep, except in a few instances in which the mouths were affected, as in cattle.

In dairy-cows the teats became affected with pustules and ulcers at the same time as the mouth, the udders subsequently became inflamed and tumefied; and abscesses were formed, terminating frequently in a total loss of milk, and, in less severe cases, in a diminution of quantity.

The pregnant or in-calf cows and barren cows were less violently affected, but cows having recently calved suffered most, more especially in the udders, from the formation of tumours and milk abscesses, constituting the disease commonly called garget; abscesses and ulcers also were formed in various parts of the

* The following circumstance was related to me by the dairyman of a large farm in Dorsetshire:—The smell of fresh blood often affects cows in a straw-yard, making them appear as if frantic. After milking the diseased cows the dairyman overturned the pail in the straw-yard; the cows were greatly excited in the same manner smelling at it, and fighting to keep each other away from the spot where the diseased milk lay.—C. Lemon.

limbs and body, especially the points bearing the animal's weight when lying down. At this stage of the disease it was often attended with so much fever and prostration of strength and constitutional debility, that the animal was incapable of rising or changing its position, which caused extensive ulcers, abscesses, and frequently death from irritation and exhaustion.

A few cases of second attacks are reported to have occurred, and even third attacks are mentioned ; but these are exceptions.

There are reports of some having been herded with infected animals and entirely escaping, and some that had gone through the disease, and, although re-exposed in diseased herds, had no renewal. In one report vaccine inoculation from a child is said to have lessened the severity of the disease. Low condition is also said to have diminished its virulence. In the few that had second attacks the disease in some is stated to have been in a severer, and in others in its usual form*.

The medical treatment has generally been of a purgative nature, sometimes too strong and probably injurious, frequently combined with diuretics and stimulants, &c.; and astringents were used externally to the teats, feet, and mouths, and tar in some cases to the feet, and occasionally mild caustic applications. Bleeding has also been practised by some and disapproved of by others. Setons, issues, and blisters have also been employed.

Abortion has seldom occurred, nor has the produce of any stock been born diseased, although the mothers were labouring under it during parturition.

Some newly-born animals became sickly in two or three days after birth, and died apparently from constitutional disturbance. Others, in which the usual symptoms became manifest, were cut off within a week. It is stated to have appeared in the feet of sucking pigs only.

Upon the subsidence of the disease many cattle were attacked with cutaneous eruptions, which usually yielded to the remedies employed in ordinary cases of mange.

In the few post-mortem examinations that were made, a diseased state of some, and in others of all the vital organs, appeared, and marked inflammatory action had been general throughout the system.

The epidemic disappeared in some farms and dairies in about a month, and in others extended to six months.

The cattle that have suffered from the disease in the country

* Preventive treatment has been resorted to successfully, as reported in some cases, but failed in others, such as smearing the noses, feet, backs, loins, and horns at intervals with tar. Others have applied it about the premises.

are estimated to have been reduced in value five per cent., which is much below the London estimate, and dairy-cows having newly calved are calculated to have lost thirty per cent. of their original value.

July 17, 1841. WM. SEWELL, Professor, Royal Veterinary College.

A CASE OF PHRENITIS IN A COW.

By Mr. J. TAIT, *Portsoy.*

Dear Sir,—SHOULD you think the following case worthy of insertion in THE VETERINARIAN, it is at your service. I am truly glad to see THE VETERINARIAN of this month so much improved, there is no power, I trust, that can now arrest its course.

Dec. 2d, 1841.—A poor man came from a distance for me to see his cow, that had been ill two days : this morning, however, she was much worse. He told me that she had seen a *rat* run up the wall of the cowhouse, and that she was now "*clean mad*," for she was like to break down the house by sprawling upon the walls, foaming at the mouth, and darting at any person that went near her.

He had removed her from the house into a shed. He said he would like me to see her, but he feared that she would be dead before I could get to her. However, I went and saw the cow, and, sure enough, she was mad, for I never beheld an animal in such a state. She was tied by the horns with cart-ropes, and made fast to a post in the shed, round and round which she was going, tearing up every thing she could get at, bellowing, foaming at the mouth, and darting at every person that she saw, until, occasionally, she would throw herself down quite exhausted.

She appeared to me to be labouring under inflammation of the brain ; therefore the next time that she fell down I made the bystanders secure her until I bled her to the amount of ten quarts. We then blindfolded her, and allowed her to get up, which she did. The least noise made her spring forward and bellow : a strong cathartic was given, and the cow was allowed to remain where she was for the night.

3d.—She seems better, for she allows me to handle her ; but she is terribly agitated at the least noise, and we can hear the heart beating loudly, 100 in a minute. The medicine has operated, and the cow has drunk a pailful of meal and water. I left a few powders of gentian and ginger to be given her twice in the day.

4th.—The man has come to say that the cow is nearly well again.

12th.—The cow is quite well, but sadly reduced in condition.

A CASE OF HYDROTHORAX IN A HORSE.

By Mr. Joseph Thompson, *Boroughbridge.*

Sir,—Should you think the following worthy of insertion in your valuable Journal, it is at your service:—

I was called out on Friday last, December 31st, 1841, to attend a valuable colt, rising four-years old, the property of Thomas Pech, Esq., Marton-le-Moor.

On my arrival I found him labouring under the following symptoms:—His ears were rather cold—the pulse very little affected—and the breathing natural. The owner informed me that he had a slight cough a few days ago, and thought he was going to have the distemper, and his pulse not being much affected, did not think it necessary to detract blood, but had his legs bandaged, sheeted, and made comfortable for the night. I then gave him a fever-ball, and took my departure. I was, however, sent for in the morning, he being much worse.

On my arrival I found him lying down, and unable to rise, and in less than five minutes he expired.

Not being able to account for his sudden death, I requested leave to open him, to which the owner readily consented. I found the bowels and abdominal cavity quite healthy; but, on examining the chest, I found the pericardium completely filled with straw-coloured fluid, to the amount of from four to five quarts, the lungs and every other part being quite healthy. You would greatly oblige by giving me your opinion as to the time that would be occupied in the secretion, the horse being perfectly healthy in appearance previously. Mr. Pech wishes to have my opinion whether the horse was sound or unsound, he only having had him a fortnight in his possession. I could much wish to have your opinion on the matter.

From the absence of all signs of membranous inflammation, pleural or pericardiac, and of any that would indicate disturbance of the heart's action, I should imagine the case to be similar to one that occurred while I was a pupil at the Veterinary College. We ascribed it, I remember, to increased action of the vessels pouring out the natural secretion; and thought that the collection, which was sufficient to fill the sac, must have been some considerable time in forming. I should say, water, to an unusual amount, existed at the time of purchase, and that it kept on accumulating to the day of dissolution.

W. P.

ON EPIZOOTIC DISEASES.

By Mr. W. Youatt.

[Continued from page 38.]

At the close of the history of epidemic diseases in the last number of this periodical one name was omitted, and the most valuable of all—that of the poet and agriculturist Virgil. He died in the 19th year before the death of Christ. His Georgics, the most beautifully written of any of his works, although devoted nearly exclusively to agricultural subjects, are read with undiminished delight at this distant era.

The account of an epizootic disease which raged at this time is very interesting. We quote from the translation of Dryden.

> "Here,"—in some part of the Alps—"from the vicious air and sickly skies,
> A plague did on the dumb creation rise;
> During the autumnal heats th' infection grew,
> Tame cattle and the beasts of Nature slew.
> Strange death—for when the thirsty fire had drunk
> Their vital blood, and the dry nerves were shrunk,
> A watery humour swelled and oozed again,
> Converting into bane the kindly juice
> Ordained by nature for a better use*.
> The victim ox—sunk of himself,
> Or by the holy butcher if he fell,
> The inspected entrails could no fate foretell.
> Scarcely the knife was reddened with his gore†,
> Or the black poison stained the sandy floor."

This is marked by a master's hand.

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* The original is far superior to the delineation of the translator.

> Hic quondam morbo cœli miseranda corta est
> Tempestas, toto que autumni incanduit æstu;
> Et genus omne neci pecudum dedit, omne ferarum,
> Corrupitque lacus, *infecit pabula tabo.*
> Nec via mortis erat simplex, sed ubi ignea venis
> Omnibus acta sitis miseros adduxerat artus;
> Rursus abundabat fluidus liquor; omnia que in se
> Ossa minutatim morbo collapsa trahebat.
>
> *Georgic.* lib. iii, 481.

† The original is here singularly expressive:

> Ac vix suppositi tinguntur sanguine cultri,
> Summaque jejunâ sanie infuscatur arena. (492.)

Next follows a description of the horse labouring under this malady.

" He paws the ground, and, on his hanging ears
A doubtful sweat in clammy drops appears.
Parched is his hide, and rugged is his hair;
He rolls his mournful eyes—he deeply groans—
He heaves for breath; which, from his lungs supplied,
And fetched from far, distends his labouring side.
To his rough palate his dry tongue succeeds,
A ropy gore he from his nostrils bleeds.
A drench of wine has with success been used,
And through a horn the generous juice infused,
Which, timely taken, opes his closing jaws;
Or, recruited into rage, he grinds his teeth
In his own flesh, and feeds approaching death."

Georgics iii, 767.

These are the genuine symptoms of the disease as they often appear in the horse at the present day, and the state of the animal when the cordial was given being mistaken. The earlier symptoms are true to nature. The classical scholar will thank us for the graphic description of them*.

The poet proceeds to describe the fearful progress of the malady.

" The nightly wolf, that round the inclosure prowled,
Now plots not on the fold, tamed by a sharper pain.
The fearful doe and flying stag around our dwellings roam.
The scaly nations of the sea profound,
Like shipwrecked carcasses are driven aground:
The viper dead within her hole is found.
To birds their native heavens contagious prove.
To change the pasture 'tis in vain,
Or trust to physic—physic is their bane.
The learned leeches in despair depart,
And shake their heads desponding of their art."

Tisiphone†

Majestically pale now treads her round.

---

* Pede terram
Crebra ferit; demissæ aures: incertas ibidem
Sudor, et ille quidam morituris frigidus; aret
Pellis, et ad tactum tractanti dura resistit.
Hæc ante exitium primis dant signa diebus.
Sin in processu cœpit crudescere morbus,
Tum verò ardentes oculi, *atque attractus ab alto*
Spiritus interdum gemitu gravis: imaque longo
Ilia singultu tendunt: it naribus ater
Sanguis, et obsessas fauces premit aspera lingua."

Georgics iii, 508.

† Tisiphone was one of the furies, and the minister of severe vengeance on mankind.

At length she strikes a universal blow,
To death at once whole herds of cattle go:
Sheep, oxen, horses fall, and heaped on high,
The differing species in confusion lie.
Red blisters rising on the men appear,
And flaming carbuncles, and noisome sweat,
And clammy dews;
Till the slow creeping evil eats its way,
Consumes the parching limbs, and makes the life its prey."
Georgics iii, 820.

Before we proceed to the character of the epidemic in the different portions of the christian æra, it perhaps may be useful to pause for a moment. One circumstance, and a very important one it is, arrests our attention. The pestilence uniformly selects the quadruped as the first object of its attack. Moses, in the earliest record of this malady, states, that the hand of the Lord was upon the cattle and horses, &c. This punishment having no effect, boils and blains break forth on man and beast.

Ovid in his account of the depopulation of Ægina, states, that

The young disease with milder force began,
And rag'd 'mong birds and beasts, excusing man.

But at length the infection spread to the human being, and the island of Ægina was almost depopulated.

At the siege of Troy,

"On mules and dogs the infection first began,
And last the vengeful arrows fixed in man."

In the different accounts of the epidemics related by Livy, it is recorded, that the pestilence first appeared among cattle, and was succeeded by a more fearful one attacking the human being. Silius Italicus gives an account of an epidemic that first appeared in the dog, and then in the bird, horses, and cattle, and, last of all, the human being.

We are not yet authorised to draw any conclusion from this; but it is stated as a fact.

Another fact is, the peculiar appearance of the viscera. Ovid says, that,

"Scarce was the knife with the pale purple stained,
And no presages could be then obtained
From putrid entrails, where the infection reigned."

Virgil states precisely the same thing:

"The inspected entrails could no fates foretell,
Scarcely the knife was reddened with the gore,
Or the black poison stained the sandy floor."

Ovid, and Horace, and Virgil, speak of "the oppressive weight of heavy clouds," and of "a gloomy darkness rolling about the head of Apollo;" while Virgil refers to "the vicious air and sickly skies." We repeat, that we are not warranted, as yet, in drawing any inferences; but we deem it right to chronicle these circumstances.

[To be continued.]

CASES OF INFLAMMATION OF THE UTERUS IN COWS.

By Mr. John Younghusband, *V.S., Greystoke, Cumberland.*

Case I.—On the morning of the 11th of March, 1841, I was sent for to give my opinion respecting a cow that was supposed to have caught cold, or, in the language of the dairyman, to have the felon—a term much used in my part of the county for inflammatory complaints in general.

On examination, the prevailing symptoms were, a pulse quick but soft and compressible—eye dull and sunk in its orbit—ears and legs cold—skin stiff and not easily moved—appetite gone—secretion of milk quite suspended, with a total suppression of the lochia, vulgarly called the cleansings—extreme debility, and speedy dissolution quite apparent.

After questioning the owner as to the length of time she had been ill, he replied that, for aught he knew, she had continued to feed and ruminate until the day before I was sent for. After hearing this statement and viewing the above symptoms, I asserted that her illness must have been of a longer date, and gave it as my opinion that it was a case of uterine inflammation, and that I considered her recovery exceedingly doubtful.

She being a valuable beast, he was very desirous that I should endeavour to save her, and he particularly requested me to bleed her, as he considered, in inflammation, any other remedy of little use without it. Accordingly, but against my own judgment, which I frankly told him, I bled her; but scarcely had I abstracted a pint, when I perceived the pulse to falter, and the beast to become all over tremulous, with scarcely power to keep herself from falling. I immediately closed the orifice, gave her a strong stimulant, combined with a small dose of opening medicine (the bowels at this time being in a lax state), and ordered the loins to be well fomented with warm water.

Being particularly engaged among patients at that time, and considering my presence of little use, I left her, with a full dose of spt. æther. nitrosi and tr. opii to be given in gruel at noon, at the same time desiring the owner, in case she died, to let me know it, that I might have an opportunity of an examination. In the evening a messenger came to let me know that she was dead.

Post-mortem appearances.—I cannot better explain them than in the words of M. Gatellier, and quoted by Dr. Ley, as recorded by that learned and able writer in his Study of Medicine, Dr. Mason Good. They contain a more correct description of the complaint than I could possibly give, although Dr. Good is describing a case of human and not of veterinary pathology.

"On examining the body, the peritoneum and intestines exhibited little morbid affection of any kind, and the disease was found limited to the uterus and spleen. The peritoneal covering of both was slightly inflamed, but the internal structure of both had undergone a very extensive destruction. The whole surface of the uterus, when stripped of its tunic, was found to have assumed a gangrenous appearance, was extremely irregular, of a dark livid hue, and gave forth a highly offensive vapour. The texture of the spleen was so changed as to resemble an extremely soft piece of sponge (in my case it was contracted to one-third of its natural size), and its cells were filled with an intimate mixture of pus and grumous blood."

This being the first case of the kind I have met with, and its course being so rapid, I was puzzled to know whether my treatment was right or wrong; but, by perusing the above work, and others of a similar kind, and speedily having a second case, I was led to imagine that in cases not so desperate my mode of treatment—the bleeding being omitted—might be successful.

Case II.—This cow had calved about eight days, and had been unwell for two days before I was called in. On inspecting my patient I immediately recognised the foregoing disease, with the same attendant symptoms, but not in so aggravated a form, and to which was added a slight degree of straining, as if wishing to void something from the vagina.

In this case debility was extreme.

I now began my treatment by exhibiting a mild laxative, combined with a large dose of pulv. zingib., and every eight hours afterwards, for two days, I gave strong stimulants combined with camphor and tr. opii. After this time I omitted the camphor, and gave, twice in the day, spt. æther. nit. et tr. opii, with pulv. rad. zingib. et gentian, in gruel. In the course of a few days my patient shewed evident signs of speedy amendment, although she had a slight discharge from the vagina of a reddish

brown colour and offensive smell. The secretion of milk partially returning, the skin being more loose, and rumination having returned, the owner thought her doing so well, that her medicine might be discontinued. He was, however, egregiously wrong, for, on the following day, she again shewed all the signs of returning disease.

I was once more requested to visit her. I found the discharge from the vagina quite suppressed, the secretion of milk entirely stopped, with all the unfavourable symptoms as before. We again had recourse to the treatment already described, and after giving a few doses improvement soon took place. In the course of a week she was convalescent. After this the owner kept her a few weeks, and then sold her, with a plentiful flow of milk, to a person in the neighbourhood for a good round sum.

CONSULTATIONS.

No. XXV.

Influenza.

The influenza is now prevailing among the horses that come under my care to an alarming extent. The symptoms in the young horses are increased rapidity of the pulse, with a wiry feeling—cold extremities—staring coat—no appetite—and an evident staggering gait.

The symptoms are nearly the same in the older horses, only the eyes are much swollen, with very considerable discharge. After your long and extensive practice, will you kindly tell me what course I should pursue?

I am, very thankfully your's,

F. Child.

Swaffham, Jan. 16th, 1842.

My dear Sir,—The influenza, or epidemic, among my horses, is bronchitis, preceded or ushered in by laryngitis, and by it accompanied to its termination, nay, apparently outlived by it.

The treatment that I adopt, and with general success, is a very simple one. In every case in which there is febrile disturbance of any moment, I bleed, but always moderately; I then give an aperient, and order a mash diet, without hay, until the physic has operated.

This I follow up with febrifuge medicine, bleeding a second time, if required.

During the whole course of the disease, I stimulate the throat, neck, and breast with ammonia and turpentine, and generally think it good practice to rowel the breast. The skin and extremities should be kept warm ; but air should be freely admitted into the patient's box.

Although an aperient is ordered at the commencement of the treatment, absolute purging will be found to do harm. Should it make its appearance, it should be immediately checked, by taking away the patient's water and mashes, and allowing him nothing but gruel to drink and hay to eat.

W. Percivall.

ACCOUNT OF A SINGULAR EMBRYO LAMB.

By Mr. C. J. Green, *V.S., Fareham.*

Having this morning seen what I consider an interesting case, I have forwarded to you the whole detail. It is the autopsy of a full-mouthed ewe.

On making an incision along the linea alba through the abdominal and recti muscles, there was presented to view a fœtal lamb in the cavity of the abdomen, wholly deprived of any membranes—its back lying on the abdominal muscles, the support or attachment being formed on the off-side, and effected by means of intervening bands of lymph from the cheek, and continued backwards to the antero-spinous process of the ossa innominata, wholly enveloping the off-fore extremity : the union formed between the fœtus and the peritoneal covering, at the inner surface of the off abdominal muscles in the umbilical region, was its head ; the posterior parts extended as far back as the ensiform cartilage, and the uniting medium was very firm. The near side, from the third cervical vertebra, as far back as the os coccygis, with the other three extremities, were imbedded in the epiploon, or caul. The hind extremities were firmly fixed to each other, and also to the abdomen ; they were, in fact, immoveable. The fore extremities were attached to each other as far down as the carpus, and from the anterior surface of the carpus, by intervening lymph to the lower surface of the neck.

The ewe has never shewn any unnatural symptoms, further than that she was barren last spring ; and it was previous to this that she was brought in contact with the ram. She was of the South-down breed.

Every thing, excepting the uterus, was in a perfectly healthy state, and, when slaughtered, she died well, as it is termed by butchers.

The passage of the cervix of the uterus was obliterated by small excrescences of the character and appearance of the inner surface of that organ. The bladder was perfect.

The appearance of the fœtus was as follows:—The nose was deformed, being twisted on one side. There was not the least appearance of eyes. The ears were small, and fixed back on the poll; they were of the nature of the parotid gland. The spine, from the third dorsal vertebra, was quite in a curve, resembling the curve of the neck turned the reverse way upwards. The os coccygis continued firmly fixed between the hind extremities. Three parts of the way down, and very small, were the legs and under surface of the belly; the anterior maxillary bones were the only parts covered with wool. The abdominal muscles were very thick. The spleen, pancreas, and kidneys were wanting, as well as the posterior outlet. The intestines were through their whole extent, and also all their coats, of a clayey hue. The bladder also was absent, and it was impossible to distinguish whether the fœtus was a male or female. It weighed within an ounce of five pounds.

THE VETERINARY ART IN INDIA.

[Continued from page 28.]

The general diseases of the animal have been investigated with some success, which could never have been effected by men totally ignorant of every branch of physic. This was the case with the farriers who formerly had this branch of medical duty. Unacquainted as they were with the circulation and properties of the blood, they could have no knowledge of inflammatory complaints, wounds, abscesses, or ulcers. Ignorant of physiology and pathology, they could form no just conception of the causes, symptoms, and cure of diseases; and, strangers to chemistry, they could know but little of the operation of medicine.

These difficulties are, however, still more conspicuous in this country. The animal is here of more value, and more liable to diseases that require the speediest and most powerful remedies; and the people who are entrusted to direct the mode of relief are yet more ignorant of the animal than the most obscure village farrier in England.

I have been at particular pains not to be prejudiced, and have taken every opportunity to investigate the native salistry's source of knowledge, which I have to observe is a combination of error, prejudice, superstition, and folly, without one line of conduct and observation, or one ingenious remark, to support it. I was informed they were very sure as to their applications. On duty with a brigade of cavalry, I have had repeated opportunities of experiencing the reverse. In the most unreserved manner they shewed me their books, which they explained; and I have such demonstrable proofs of these people's ignorance, as obliterates every possible doubt of the contrary. I am sorry to add, that the result of such obscure conduct is attended with considerable loss to the cavalry and aggravated misery to the animal.

The cure of diseases in the horse is now studied by men who, having received a medical education, are enabled to make observations on the symptoms, &c., which must give some degree of rationality to their practice. The seats of disease in many cases have been discovered which were never before imagined. The farcy and glanders, which were formerly believed to be a disease of the veins, are now known to be concerned with the absorbents; and many cases which were called by these names, and frequently occasioned the instant destruction of the animal,* are found to be disorders neither attended with contagion nor danger. The varieties of fever formerly treated on do not exist in the horse, and even the ardent fever very quickly passes to, and concludes in, an inflammation of the lungs. Spasms (gripes) and inflammation of the intestines, two very opposite disorders, are now distinguished and treated accordingly, by which many horses are saved. Formerly in England they were, and at present in this country are, treated promiscuously for the gripes, and if it proves to be an inflammation (which I have frequently observed) the animal is destroyed. What is termed chest-foundered proves to be a deep-seated inflammation of the fore feet from bad shoeing compressing and distorting the circulation of the foot.

I have also to observe, that I have found many diseases—which, though not peculiar to this climate, are yet very predominant—perfectly simple, and cured with ease; while by the treatment of the natives they are rendered dangerous, and cause the death of many very valuable horses. This is particularly conspicuous in diseases of the skin, which they, as well as the farriers, denominate the mange; and ulcers arising from an impoverished system are called by them farcy. In spasm of the intestines (gripes) their remedies have scarce ever sufficient force to give timely relief; and

* Horses supposed to have these disorders are immediately shot, to prevent contagion.

in the diseases of the skin they positively aggravate and render them fatal; yet they are all complaints, void of danger, and very speedily yield to a proper treatment. I hope it will not be thought that I make the remotest insinuation in compliment to my having discovered the fallacy of these people, and the true mode of success, as there can be no difficulty in detecting the errors of a salistry. The only point I have in view is the necessity of introducing a more successful mode of medical treatment for the horse, and the gratification to my feelings from the reflection of having endeavoured to diminish the sufferings of so useful an animal.

The knowledge of the operations of medicine on the horse is likewise advanced, and proves very different from that in the human subject. Opium does not produce sleep; tartar emetic, given in doses of four ounces, produces no visible immediate effect; sugar of lead and hellebore given in extensive doses have neither increased nor decreased the action of the system; salts, jalap, and rhubarb, seldom purge; sulphate of copper and verdigris, which act so violently when given in small doses to the human subject, prove but simple tonics or astringents in very extensive doses to the horse.

Yet I will acknowledge, with all these advantages, we are yet very much in the dark as to the principles of our practice. This may, perhaps, in some measure be the effects of the various and opposing systems of physic that have continually affected the medical world, by which the student's opinions must be for ever wavering, and never fixed. In the midst of such perplexed, obscure, and elaborate theories which have so long pervaded the study of physic, there at length appears one founded on that beauty and simplicity which is ever attendant on the operations of nature. The medical student has been always forced into the arbitrary opinions which he received from the public chairs, nor was he ever permitted to appeal to his reason: if any part appeared obscure, his inquiries were answered by a quotation from the favourite character of the day—a quotation conveying a mere assertion without adducing a proof.

The new system alluded to is the production of the late celebrated Dr. Brown, a man educated with all the prejudices of the fabricated doctrine of Cullen, but whose independent genius, expelling the mystic clouds of error which surrounded his youth, yielded only to the dictates of his unbiassed reason. He followed the tracts of Nature, where, minutely observing her various operations in the animal world, he erected that system which has reason for its basis and truth for its object.

This system he published before the death of the celebrated

Dr. Cullen, whose popularity created him numerous enemies, and the minds of medical men, fettered to their old prejudices, joined against him; and thus a man who will be for ever venerated in the annals of physic was reduced to misery, and died in want.

But his principles, founded on facts, could not long be concealed beneath the flimsy veil of prejudice. He appeals to reason, and reason will be heard, the truth of which is demonstrated in its being at length the present prevailing opinion, although strongly opposed at first by the most popular and celebrated characters.

Yet I hope I shall not be classed with his bigotted disciples, who, unfortunately, with himself, very much retarded the reception or even the trial of his principles, by carrying them to excess: however, their best eulogium is their being almost universally adopted on the continent of Europe as well as in Great Britain; and it is a curious fact, that I have met with many medical men who follow his practice, although totally unacquainted even with the name of the author; and there are many who know and follow his practice, yet oppose his principles. Such is the infatuation of prejudice.

There have been still further valuable acquisitions to physic made from the assistance it has received from modern chemistry. The beautiful discoveries lately made in this science have helped in some measure to confirm the principles of the Brunonian system, and will certainly form a very remarkable epoch in the annals of medical philosophy. It is a curious fact, that many people lament the present dearth of genius in Europe, which must certainly be attributed to the very interesting and useful productions from the pens of Black, Cavendish, Priestley, Brown, Lavoisier, Berthollet, and many others, not being universally known; which contain discoveries as great, and of as much real importance and utility to mankind, as that grand and happy one of gravity by Newton.

The discovery of elastic fluids must ultimately lead to the expansion of human knowledge. Chemistry, till within the last thirty years, was such a compound of jarring and unintelligible theories, as rendered the study disgusting; but now, founded on the most simple facts, it courts the inquiries of its students. Every thing which it advances is supported by analysis and synthesis, which must prove highly entertaining; while the study of chemical affinity, which pervades every part of organized nature, accounts for and displays the most wonderful phenomena, affording a sublime source of useful knowledge to mankind, and embracing so wide a sphere of investigation, that, even at this period, a person in Europe cannot conclude a liberal education without a knowledge of its principles. With these real advan-

tages, which natural philosophy has so recently gained, it requires but little prescience to assert, that the present century must produce the most valuable and extensive discoveries, the rays of which at present but scarcely extend to us.

The study of physic being also reduced to natural observations, within the reach of every mind, and which are found to pervade alike the animal and vegetable kingdoms, must prove interesting, while its simplicity and affinity to chemistry render it entertaining; and when a few more years' experience shall afford more extensive observations, and thereby regulate the present wavering practice, its general utility will become so conspicuous to those who value the blessings of health, as will perhaps render it a study attached to a general education.

The chapter on the mode of shoeing is an abridgment, mostly in the words of Mr. Coleman's publication, modified to the trifling varieties existing in this country. In the section "of general diseases" I have entered into the nature of those maladies which are so rapidly fatal in this climate. How far my conceptions may be just I must leave to others; but from the number of cases which I have seen, and my very particular and minute observations on the operation of the remedies, I believe I may assert, that nine-tenths at least of those diseases prove so immediately fatal proceed from exhaustion, and would be relieved by very forcible and diffusible stimuli.

It was at first my intention to have entered on the anatomy and physiology of the horse; but, considering that few have leisure or inclination for such a knowledge, I have relinquished it, and merely given the outlines of the circulation, and the absorbent system, which I conceived a necessary step to the knowledge of diseases. I have also described the structure and functions of parts, in treating of their diseases. In respect to pathology, or remote causes, I have chiefly confined myself to the section on general diseases: this I have endeavoured to compress in the smallest possible compass, as it would otherwise very far exceed the limits of the present work.

I cannot omit noticing in this place, that many persons who have superficially studied the philosophy of chemistry and the new doctrine of physic have frequently mistaken remote for first causes—an erroneous expression, which has assisted in drawing a severe opprobrium on what is termed the new philosophy; I therefore hope to be excused for digressing a moment on the subject.

The tenets of these persons are founded on the analysis or decomposition of animal and vegetable matter, which can now be reduced to an æriform state. Vegetable and animal sub-

stances, as oils, gums, sugars, &c., and fibres, bones, cartilage ligaments, and animal fluids, are found to proceed from the same elements variously combined; and though they can be reduced to aëriform fluids, the destruction of the smallest particle cannot be accomplished by any known power. The body when dead putrefies and exhales into those elastic fluids, of which it is originally composed. These fluids mix with the atmospheric air, and soon enter into fresh combinations with other matter, becoming again organized, and forming the constituent parts of those substances with which they combine. If in vegetables that are used as diet, they decompose and enter into some animal combination, from which again emanating, they go on performing either animal, vegetable, or mineral functions, continually combining and decomposing in endless succession, without loss of matter or property. This process takes place in every thing which putrefies or decays, and is clearly demonstrated in the animal and vegetable kingdoms, and most probably exists in every part of organized nature. This indestructible property of matter naturally led to the belief, that the world and it productions could never decay, as not even her smallest particles can be destroyed, only assuming other forms from the endless variety in her combinations. Hence, the above persons concluded, that the world existed and must exist for ever; and these conceptions militating against sacred history, religion with them became state policy. Thus their moral and religious principles being destroyed, they drew conclusions that were wild, bold, and presumptuous, and of a nature which the authors on modern chemistry and physic never suggested. These conclusions, obviously, must sometimes produce a depravity of thinking and acting that does more injury to the system they mean to support than every opinion they could have urged against it; and if they would but permit their mental effervescence to subside, and calmly investigate their opinions by the standard of the new doctrines in which they profess to believe, I think they must conclude, that however extensive and desirable may be the knowledge to which they point, yet they are but the discovery of another link in the chain of Nature, which rises in perpetual succession until lost within the Deity. There must be a line very far removed from the first cause which the human mind can never pass, and all opinions relating to the higher faculties, as the intellectual operations, &c, must be but wild conjecture on subjects which our present state forbids us to attain. This truth must be conspicuous to every keen observer of the operations and phenomena of nature.

The field of knowledge which is opened to us by the late dis-

coveries in natural philosophy is certainly extensive, and promises a rich harvest of highly interesting acquisitions ; but this proceeds from the oblivion with which it has been observed, and the perplexed and erroneous systems which had misled the world. It is by our having at length found the true path to nature, that its novelty, grandeur, and simplicity, sometimes flush the mind, and carry it to extravagant lengths. Thus discovering some of properties of matter, and that it obeyed certain laws by which it was always performing functions that could never destroy it, they infer that reason, and the intellectual operations, are but a finer combination of matter, which, escaping with life, occupy some other place in the grand elaboratory of nature, or that

> "There 's nought but one eternal flux
> Of feeble essences, tumultuous driv'n,
> Thro' time's rough billows, into night's abyss."

The dangerous tendency of such principles must be conspicuous ; and it is to be hoped that some able men will demonstrate to the world the folly and temerity of such conclusions, and shew, in strong colours, that the same power which gave motion and property to matter, can and will, at the appointed hour, render it inert.

Ere I conclude, I beg to advance a few circumstances in apology. I should never have presumed to conceive that my present writings could be useful, had any publication on the subject existed ; and my intention will be fully answered if the present work but leads to some future regulations that will convey benefit to the public, and relief to the animal.

On my arrival in this country, I was but little prepared for an undertaking of this kind ; and which I may hope will still farther plead in extenuation of errors. The whole of it was written, with the exception of the chapter of diseases of the eyes, in less than four months, amidst the confusion and inconveniencies attached to a camp in almost continual motion, where my constitution suffered from the effects of climate so much as to render my return to my country indispensably necessary. I am well aware these excuses are far from being satisfactory, as I was not limited to time, whatever I might be as to place. I can, therefore, only urge, that I rely on the liberality of those who so generously encouraged me to undertake it.

Very fortunately, the subject is such as will admit of many excuses as to diction. An elegant assortment and combination of words on such a subject is neither expected or required ; and I regret I cannot plead the same as to correctness of style. One of my first wishes was, to divest myself of every technical term, and express myself in a manner to be generally understood : this I

thought very requisite on a subject which, probably, few have read, and in which I hope I have succeeded; however, with all its imperfections, I humbly submit it, with every respect, to a liberal people.

A CASE OF HYDROPHOBIA,

TREATED AT FIRST BY PRUSSIC ACID, AND SUBSEQUENTLY BY THE APPLICATION OF ICE TO THE SPINE.

By Dr. Todd, *King's College Hospital.*

[We hasten to give insertion to this interesting case, although it refers not, except incidentally, to any of our patients. It is written with peculiar clearness and candour; but we must enter our protest against the doctrine of spontaneous hydrophobia in dogs, or any quadrupeds. The result of the experiments with hydrocyanic acid and the application of ice to the spine give peculiar value to this record.—Y.]

Emanuel Soult, aged seven, a pale, thin boy, of delicate appearance, was admitted under the care of Dr. Todd, on the 22d of November, 1841. Two months ago, while playing in the street, a dog ran past and seized his cap. In attempting to recover it the animal bit him under the right eyelid. The dog then ran off, and nothing more is known concerning him. The wound bled profusely, and the child was immediately taken to a neighbouring hospital, where it was proposed to excise the bitten part: this, however, the parents refused to permit. The wound was dressed, healed quickly, and left a cicatrix three-quarters of an inch in length, which has never occasioned him pain or inconvenience of kind. On Sunday morning, Nov. 21st, the boy's mother perceived that he was not quite well. He appeared more drowsy than usual, and begged to be allowed to remain longer in bed, a thing very unusual with him. He was feverish, and did not eat his breakfast with his usual appetite, and complained of pain in his head. There was also a strangeness in his manner and appearance which induced his mother to give him some jalap; this operated briskly, but did not relieve any of the symptoms.

The boy continued to get worse, and about four o'clock in the afternoon he suddenly started up and threw himself into his mother's arms screaming loudly as if he were frightened. His mother then observed that his eyes were very bright and promi-

nent; that there was a considerable noise in his chest, and a catching inspiration; there was also some frothing at the mouth.

He threw his arms about very rapidly, and made some ineffectual attempts to vomit. His mother then offered him drink, and begged him to lie down, both of which he professed himself unable to do, requesting that the drink might be taken away. He did not, however, manifest any disinclination to the presence of water, unless it was offered to him to drink.

As night advanced, the symptoms increased. The frothing at the mouth became very troublesome, and it was remarked that he never swallowed his saliva, but kept continually wiping his tongue with a handkerchief.

At 1 P.M., on the 22d, he was admitted. He was then in a state of frightful agitation, sitting up in bed, staring wildly about him, and calling out loudly when any stranger spoke to or looked at him: with his mother he was more quiet. His manner was that of a person under the influence of fear.

The patient now manifested the following symptoms:—eyes peculiarly bright and staring, with dilated pupils; a great disinclination to lie down in bed; spasmodic twitchings of the sterno-mastoid muscle, his head being evidently drawn round at each spasm; also of the arms and hands, with heavings of the chest, and continual agitation of the muscles of the face and larynx; abundant frothing at the mouth; vomiting, apparently of saliva and a viscid mucus; over the whole surface of the chest a loud muco-sonorous râle was heard; heart's action very rapid, but sounds natural; pulse small, 140; complains of pain in the region of the heart, and constantly presses his hands upon the chest, and retains them until the spasms oblige him to remove them; skin dry, but free from any undue heat; the lower extremities were not obviously affected; the power of the sphincters unimpaired; pressure on the cicatrix did not occasion pain, nor was it red or swollen; the lower lip at its right angle was very swollen, which his mother said was occasioned by his having bit it; the tongue was constantly protruded.

He was now offered some water: he took the vessel which contained it, and attempted to convey it to his mouth, but failed, and declared that it was impossible for him to drink, and begged that it might be removed.

Pressure along the spine did not occasion pain. He answered all questions rationally. Neither sight nor hearing were in the least affected. He was taken from the bed to make water at his own request; neither the sight nor the sound of the fallen urine affected him. The presence of strangers appeared to excite him most; he was much alarmed if any one looked fixedly at him,

and loudly ordered him not to do so. At this time there was some intolerance of light.

The excretion of mucus continued to increase, and the spasms recurring at intervals of from one to two minutes. They were always attended with a violent retching effort. He evinced extreme sensibility to draughts of air, and requested those who spoke to him not to blow upon him.

An enema of beef-tea containing ten minims of prussic acid was administered. He did not resist the introduction of the pipe, and retained the enema. The attempt to take a little wine occasioned him great spasm. Quarter to 3, P.M., he lay down for the first time. At a quarter to 4, five minims of hydrocyanic acid (Ph. L.) were administered by a camel's-hair pencil, moistened in the acid and applied to the tongue.

Quarter-past 4.—Ten minims of acid were given in the same way. Almost immediately after this dose he seemed more quiet, and lay down in bed.

Half-past 4.—Ten minims more acid given. This time he applied the brush himself; he seemed to be sensible that he derived some benefit from the medicine. He became more quiet, and the retchings seemed less frequent. The hydrocyanic was increased in quantity, and at half-past 5 consisted of twenty minims. No desired effect had been produced, but the retching and spasms had acquired excessive violence, and there was some tendency to delirium.

At 6, a frigorific mixture of ice and salt, inclosed in ox-gullets, was applied along the spine and round the throat.

Quarter-past 6.—Has been more quiet since the application of the ice; does not foam so much at the mouth; retching less frequent; pulse 100.

Half-past 6.—Muscles of the larynx and pharynx almost free from spasm; his feet are getting cold, and pulse falling—96; the ice-bags were removed, and hot bottles applied to his feet and legs. He complained of thirst; some rough ice was offered him; he snapped at it, and devoured it greedily with astonishing rapidity, *swallowing it with ease.*

7 P.M.—The ice-bags have now been off half an hour; he is becoming excited again; pulse 132; but *the frothing at the mouth and rattle in the chest have entirely gone since the application of the ice.* In the last three-quarters of an hour he has eaten a pound and a half of rough ice, which he prefers to ice-creams, which were procured for him. His swallowing had so much improved, that he was able to take some wine. On the application of the ice-bags, the heart's action became greatly depressed; breathing quite natural, and free from râle.

8 P.M.—Ice-bags removed; pulse 96; feet and hands cold;

swallows wine in considerable quantity, and with it liq. opii sed. in twenty-minim doses occasionally.

Half-past 8, P.M.—Continues quiet; has eaten some bread; there is some incoherence of speech; pulse 140. From this time till a quarter to eleven he continued remarkably free from spasm, with easy deglutition, taking occasionally a little wine and ice; he also called for some coffee. The tendency to delirium increased, however, and at eleven o'clock Dr. Guy, who was now with him, tried the cold douche. Almost immediately after the douche the pupils, which had been previously much dilated, became extremely contracted, and the boy died in the course of a few minutes. Various efforts were made for his resuscitation, but in vain.

The *rigor mortis* came on very quickly, before the means used for his resuscitation were suspended.

After-death Appearances.—The body was examined fifteen hours after death. The brain and its membranes were much congested, and the cerebral substance was rather softer than natural. The spinal veins and meninges were also much congested, but the cord was natural. The lungs and bronchial tubes much congested. Abdomen natural. Stomach empty and contracted. Pharynx injected, and its follicles seemed large.

The following clinical remarks were made by Dr. Todd, previous to the inspection of the body:—

That assemblage of symptoms known under the name of hydrophobia, or, more correctly, *rabies*, is the result of the introduction into the system of an animal poison, the operation of which presents several remarkable peculiarities. This poison is generated spontaneously by animals of the dog or cat kind, or by the genera felidæ and canidæ, of the class carnivora; and it is communicable from these animals not only to individuals of their own kind, but also to those of other genera, or at least the mammiferous class. For example, a dog becomes spontaneously hydrophobic—he can communicate the disease to a sheep or to man; but there is no evidence to prove that the fluids of a sheep or of the human subject, affected with this disease, can inoculate another animal with it. The experiments of Magendie and Breschet, performed with the object of trying to inoculate dogs with the fluids from a patient in the Hôtel Dieu, certainly failed to prove that the disease was communicable by the human subject.

It must be confessed, that it is difficult to experiment with this poison, especially on dogs, prone as they are to its spontaneous generation; for another remarkable feature of the poison is, that it remains latent in the system for a considerable period, varying from some days to several months; ordinarily, however, from ten days to six weeks, or two months. This was exemplified

in the case before us: the boy was bitten just two months before the symptoms of the formidable malady under which he sunk made their appearance, and during that interval he continued perfectly well; even the wound through which the poison had been introduced cicatrised quickly, and never occasioned any inconvenience.

In the existence of a period of latency the hydrophobic virus does not differ from other morbid poisons, its great peculiarity consists in the great length of that latency. We find that morbid poisons, although they produce constitutional effects, are prone, notwithstanding, to affect certain parts more than others. Thus the typhoid poison is prone to irritate the glands of Peyer; the poison of scarlet fever to affect the throat; that of measles the lungs. It would seem that the hydrophobic poison localises itself chiefly on the spinal system, but especially on the medulla oblongata: hence the convulsive twitchings and spasms of the limbs—the sensibility and irritability of surface, even to the slightest breath of air—the excited respiration and the abundant bronchial secretion. Upon this also depends that severe and characteristic symptom, the difficulty of deglutition; for the patient does not labour under a *fear of water*, as the name of the disease would imply, and as is vulgularly supposed—he labours under a fearful sense of the difficulty, nay, almost the impossibility of *swallowing* water or any thing else. This we saw exemplified in the case before us. When water or bread was offered him to swallow he put it from him. The very idea of having to swallow any thing brought on general spasms. It was evident, too, that independently of the act of deglutition, the throat was the seat of extreme irritation, from the constant and violent retching under which he laboured; yet there was no inflammatory appearance, no swelling of the mucous membrane of the fauces, but the cause of the continued action of the pharyngeal muscles was seated elsewhere than in the pharynx itself.

To the irritable state of the medulla oblongata must also be referred the tendency to spasm in the glottis, which constitutes so fearful a symptom of this disease. There was no inflamed state of the laryngeal mucous membrane, no more than that of the pharynx, for the voice was natural, and in the interval between the spasms the breathing was not stridulous. Here the nervous centre occasioned by an irritation in itself those spasmodic actions which are generally excited by a stimulus applied to the sentient surface, and conducted to it by the excitor nerves. That the boy did not suffer from the fear of water or other fluids was evident, inasmuch as he allowed it to be applied to his limbs, and did not shudder when he saw it.

In the treatment of the case, Dr. Todd stated that he was in-

fluenced by the view of the pathology of the disease which he had now given, namely, that the seat of local irritation was the spinal system, but mainly the medulla oblongata. He was, therefore, anxious to keep the patient as quiet as possible, and as free from all external excitement as was consistent with due attendance on him. He soon found, however, that this part of his plan was impracticable, as it was impossible to deny access to the great number of students who were actuated by a laudable curiosity to see the case.

As a medicine admitting of a ready absorption, and capable of acting as a sedative on the spinal system, it was determined to try hydrocyanic acid. This drug will act as well if applied to a mucous surface, the lip, the tongue, or the conjunctiva, as when introduced into the stomach; and its influence seems to be mainly on the cerebro-spinal system. It was applied on a brush to the lip or tongue, and thus the act of swallowing was rendered unnecessary. The doses ordered were larger than those actually given, for, in consequence of the constant retching and foaming at the mouth, it was necessary to allow for considerable loss.

A fair trial had now been given to this plan, but without any success; indeed, we were not without fear that the acid in large doses might contribute to increase the spasmodic condition. Knowing the powerful sedative influence of cold, he gladly availed himself of a suggestion of his colleague, Dr. Guy, to try its local application. Some ox-gullets were procured, and filled with pounded ice and salt, and two were applied along the whole course of the spine, and one in the shape of a collar round the neck. To their great surprise, the boy also greedily devoured solid ice in great quantity. A marked effect speedily followed this treatment. The spasms of the throat, the frothing at the mouth, the rattle in the chest, and the difficult deglutition, all gave way. At the same time, however, the heart's action was very much depressed, both in force and in the number of beats; so that it was found necessary to remove the ice in the course of a quarter of an hour. After some time, when the spasms began to return, the ice was again applied with the same effects. It was evident that the ice had a most powerfully sedative influence, and therefore it was found necessary to use stimulants freely; and Dr. Todd expressed his belief that cold applied along the spine was a remedy of great power, and deserving of a full and fair trial. He regretted that it had not been used at the commencement, instead of losing time with hydrocyanic acid; and he stated his determination, should another case occur, of employing it, carefully watching the patient, and administering stimulants to counteract the too-depressing influence of the cold.

Lancet.

ON THE PRESENT EPIDEMIC OR INFLUENZA AMONG HORSES.

By Mr. W. Percivall, *M.R.C.S., Veterinary Surgeon to the First Life Guards.*

The expiring of the old year and birth of the new one has brought among our horses a disease uniform enough and prevalent enough to obtain the appellation of either "epidemic," "epizootic," "influenza," or "distemper," as suits the vocabulary or fancy of the groom or doctor in attendance. In most instances, it has assumed the bronchitic form of disease, distinguished by concomitant laryngitis, which has produced an annoying sore throat, and a cough evidently painful from the feebleness of it, and the palpable efforts made by the animal to suppress it. The respiration has proved very slightly disturbed; just enough, however, with the absence of murmur and the deadness of percussion, to indicate some congestion of the lungs. Dulness, dispiritedness, gloominess, has been an early and remarkable symptom. The appetite has not altogether failed; but has been fastidious enough. The extremities are commonly warm. In two instances, there has been very conspicuous an intolerance of light—the horse blinking or shutting his eyes when brought to the stable-door or window; and yet the eyes themselves have shewn no appearance of disease, nor had any issue running from them. In one case the conjunctival membrane was evidently a good deal loaded with bilious tinge. In ordinary cases, it has, in common with the Schneiderian membrane, appeared reddened and injected. No discharge, or only a lachrymous one, from the nostrils. The tongue has been dry, and exhibited longitudinal broad patches of redness, but afterwards has attained that saponaceous character which indicates—and particularly when combined with the yellow tinge of the mucous membranes—gastro-enteritic disorder; and this has been further indicated, in some cases, by the dung-balls being either of so light a bilious shade as almost to appear of a gamboge colour, or else to shew a tinge of the highest-coloured bile; and being at the same time coated with albuminous (slimy) matter. The urine is thick, and less than usual in quantity.

Slight cases, treated at their commencement, will amend again on the third or fourth day, and the horses resume their work in a week. When there is confirmed inflammation in the air-passages, and the lungs become congested, the case will endure a fortnight or three weeks, or may occupy altogether a

month: in such cases, the tenth day is the time amendment commonly shews itself, undisguisedly.

Out of ten horses attacked with the disease, five were under five years old; two had completed their fifth year; two their sixth; and one his ninth.

Eight were attacked standing in the stable; two, both three years old, contracted the disorder while running in the straw-yard.

The fatal case—one of the eight attacked in the stable—was taken ill in the usual manner, proved dull and spiritless and somewhat off his feed, with quickened pulse, and some slight and slow heaving of the flanks, perceptible only to the close observer, with reddened membranes, dry and unnaturally hot mouth and tongue, warm extremities, scanty excretions, &c.

The patient was bled early, and that was followed up by the usual course of treatment, and was twice repeated on account of relief not being obtained. It proved, however, one of those cases which from the very onset never once in its course rallied or seemed arrested; but chronically, lethargically almost, ran its uninterrupted course to the seventh day, and then ended in death: neither rowel nor blister acting.

The post-mortem examination disclosed congested lungs, in places proceeding to hepatization; pleural inflammation, not intense, with several quarts of water in both sides of the thorax; but no albuminous effusion. Glottis intensely inflamed.

The Treatment I have found in all but the above case successful, is blood-letting, whenever the pulse or state of the respiration, or apparent condition of the horse, calls for it. Giving, as soon as called in, an aloetic aperient, to render the fæces pultaceous; not to purge. Should the abridged dose of cathartic mass not accomplish the object desired, it had better be brought about by simple *enemata:* such ought to be our horror of exciting diarrhœa, the most dangerous and troublesome concomitant we can have to encounter. On the other hand, should the half cathartic, contrary to all usual effect, actually produce purging, it must and may soon be arrested by confining the horse's diet to hay and his drink to well-made oatmeal gruel. The aperient I follow up with febrifuge medicine, antimony and nitre. The antimony itself, if it does nothing else, will be found to keep the bowels soluble*. Liniments of ammonia and turpentine will be found most useful for rubbing the throat and breast: in the latter it is good also to early insert a plug or rowel. Should inflammation establish itself in the lungs, a blister should be applied. The

* Perhaps other veterinarians will bear me out in the antim. tartariz. taking effect on the bowels.

skin and extreme parts cannot be kept too warm. The air the animal breathes should be rather cool, and uniform in temperature. Some cases will bear a second, some a third blood-letting. Aged horses will bear bleeding well; young ones, sparingly, and the earlier the better.

THE VETERINARIAN, FEBRUARY 1, 1842.

Ne quid falsi dicere audeat, ne quid veri non audeat.—Cicero.

It was rendered sufficiently evident in the last Number of our Journal, that the management of cows in large towns and in the country is essentially different. With regard to the former it is a mere matter of money. The cow is valued in proportion to the quantity and quality of her milk, and as soon as that diminishes, and there is reason to fear that the appearance and quality of the meat may likewise suffer, she is hurried away no one knows whither or by whom. In large towns this is easily managed, and the mysteries of the slaughter-house are not easily penetrated. It is different with the country dairy-man, and more particularly with the gentleman and the opulent farmer. Many interesting circumstances mingle with his calculation of the affair. She has long been about his farm—she has brought him many a fine calf—she has been part of his family—he is attached to her, and she in some measure to him—and every kindly feeling induces him to give her a chance of escape.

If he were sufficiently hard-hearted to abandon her, how shall he accomplish his object? In a large town no one knows whither she went or what became of her. In some of the market-gardens about the metropolis, five-and-twenty years ago,

as I went in the morning to visit my patient, the animal for which I had been prescribing on the preceding evening was ofted found hanging up, nearly dressed, or neatly stowed away among the vegetables. In the country this cannot be effected, and the very interest of the owner of the animal urges him to endeavour to save her. Thence the *toto cælo* difference in the knowledge of cattle pathology to be acquired in the neighbourhood of the metropolis and the heart of the country, and the necessity for the instruction that can be derived from one that has long resided, and been well taught in the practice of the country.

There has, however, been another hindrance to the acquirement of a knowledge of the proper treatment of cattle, and of horses too, arising from the irregularity with which the lectures on the pathology of the horse and of cattle have been delivered. Some of our readers who were present at a conversation between the Editor and Professor Sewell, at a meeting of one of the committees of the Agricultural Society in the course of the last spring, will recollect the impossibility of obtaining from that gentleman the assertion, that, during the whole of that session, he had delivered five lectures on the diseases of cattle.

Nearly three months of the present season have passed away, and only three lectures altogether have been delivered to the class on the diseases of the horse and of cattle. It is true that Mr. Sewell has in that period suffered a severe domestic calamity, and considerable indisposition. We condole with him, and sincerely, on both accounts: but it must not be forgotten, that the acceptance of a salaried office is accompanied by the obligation to provide a substitute when ill health or any other cause prevents us from personally discharging its duties. That has not been done: but the interests of the profession, and especially of the students, have been sadly and unjustifiably neglected. These things should be duly considered and amended.

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LECTURES ON HORSES.

By WILLIAM PERCIVALL, *M.R.C.S., Veterinary Surgeon First Life Guards.*

LECTURE II.

THE NECK.

" With neck like a rainbow, erecting his crest."

THE neck being the part to which the head is affixed, and by which it is attached to the body and supported, its shape and proportions will necessarily admit of a good deal of variation, according to the size and setting-on of that appendage. Viewed in the skeleton, the neck appears a very slender and inadequate structure to support such a formidable and bulky substance as the head; and truly inadequate to such a burden would it prove, were it not in the living animal aided in its functions by two powers of considerable influence and importance—one *elastic,* the other *muscular,* in its nature. The striking difference in the aspect and volume of the neck in the anatomized and living animals will shew how great is the proportion of soft parts—*ligament* and *muscle*—compared with the abstract osseous materials or component *vertebræ;* and when we come to consider the nature and economy of these soft materials, we shall find that hardly any of the weight of the head is actually borne by the *vertebræ* of the neck; although the bone here, as in other parts, must still be regarded as the framework and basis of the structure. So far, therefore, as the bone is concerned in the support of the head, it matters little what the form and dimensions of the neck may be; its length and figure and substance having reference chiefly to the operation of the muscular and elastic powers.

A neck disproportionately long will, according as it is well or ill carried, detract more or less from the symmetrical beauty of the fore parts: at the same time that it is operating in rendering the head more burdensome than if it were a shorter distance from the body, on account of the increase of leverage. A favourite exclamation of Professor Coleman's was, "Give me a horse that will starve at grass;" thereby meaning a horse having a neck so short that, from not being able to reach the grass, he was incapable, or nearly so, of getting his living by grazing. Such extreme and disproportionable shortness of neck, however, although advantageous in the light in which it was viewed by the Professor, viz. decrease of leverage, is on some other accounts by no means desirable. It is perhaps an objection to a horse with a very short neck, and legs at all long, that he cannot but with difficulty get his living by grazing; but a greater objection to such shortness is, that a horse so made can hardly by any training in the manege be made to ride well. The neck is too short and too thick—the two properties generally go together—to admit of the required flexion, and the consequence is, the head cannot, by any perseverance in reining or bitting, be drawn into its proper position. The horse will ride *piggishly*—go boring forward, perhaps with his nose out, and make that sort of continual dead pull on the hand that gives his rider the sensation of his inevitably falling down at the first blunder in action he happens to make. But a horse's neck that is short is commonly broad and thick as well, and moreover is combined with strong shoulders, thereby rendering him a great deal more fit for the harness-collar than for the saddle; such shortness and thickness in the neck, and strength in the shoulders, being for harness attended with many advantages. The *bull-neck*, as it is called, is proverbial for strength, and strength of a kind which appears well adapted for draught. In Spain and Portugal the oxen are yoked to the bullock-cars by their horns, which by leathern thongs are lashed to the pole of the car; and thus, by strength of neck alone almost, do they move forward with their loads, and, to appearance, with as much facility and effect as though they were—as in our own country—in harness-collars. Nothing can demonstrate power in the neck better than this; at the same time that it shews us that the commonly received notion, "the neck should be *lean*," is erroneous. Such thinness or leanness may prove admirably suited for flexibility, and be the means of the horse reining in and riding pleasantly; but for every purpose of power, for endurance, for signs of bodily strength, a broad or muscular neck is a point to be sought after and valued.

But the neck may be long, and yet its carriage may be such as shall prevent any increase of leverage. The horse "with a rain-

bow neck," although his neck may be by actual admeasurement equally long with that of another horse who carries his neck quite straight, yet will the leverage in the two instances be altogether different. It will be seen, on a review of the skeleton, that the lever, in a well-carried head, does not run in a line parallel with the neck, but extends diametrically across the curve of it; proving that the neck, though long, does not in point of fact—so long at least as it is well-carried—add any thing to the leverage.

There are circumstances, however, under which increased length with straightness in the neck, however inelegant it may be, appears even to be productive of advantage. It seems to me that the preponderance of the head in the forward direction must have some influence in facilitating progression at the time that the horse is flinging himself forward in his gallop with all his might; and in order that it may have this effect the more, he projects his head while galloping to the utmost, and inclines it to the ground. I know very well other ends are answered by this straightening of the neck and protrusion and declination of the head, but this nowise militates against the effect of the gravity of these parts in that sort of swinging or leaping action of which the gallop consists. This accounts for length in neck being considered desirable in a racer, and for his always making the most of it in running, carrying his head in that thrust-forward position that his muzzle is the foremost part: hence the report that a horse has won his race "by a nose" becomes literally correct. This demonstration of the utility of a long and straight neck reminds us once more that, in regarding the conformation of horses, it is our duty ever to bear in mind of what breed or kind they are, and for what purpose they are by nature or art intended. In a hackney, nothing is more unpleasant than a long neck so straightened that the rider in vain tries to rein the head in; in a race-horse the same appears to be attended, in his speed at least, with advantage.

The most undesirable form of neck of all others is what is called *the ewe neck*. Very often this is a natural deformity, appearing to consist in extension of the dip or reversed arc* of the cervical portion of the spine: oftener, however, I believe, it will be found to owe its production to the harsh and fruitless efforts of art "to get the head up or in," when the neck is of that description that will not, naturally, admit of it. Such constrained erect position of the neck and head is not only exceeding unsightly, but is irksome to the horse, and to his rider as well, who has, by continual workings with his bridle-hand, to keep the head in this forced erect posture. It is of no use trying by bitting or riding, or any course of manege, to alter a natural ewe-neck: no pains or perseverance can ever render a horse so formed pleasant to ride.

* Already described at page 10.

THE HEAD.

"The head of a horse should be narrow, lean, and not too long; but the principal matter to be observed respecting it, is, that it is well united with the neck, that so the horse may be enabled to bring it into a good position: and the best position in which a horse can possibly hold his head is such an one as is perfectly perpendicular from the brow to the ground, so that, were a plummet to be suspended from that part, it would just raze or touch the nose. Every horse that has too large a head is apt to bear too hard on the bridle, which not only tires the rider's hand very much, but exposes both to several very disagreeable accidents; and, besides, a large headed horse cannot appear to any advantage unless he has a very long and well-turned neck."—*Farriers' Dictionary.*

The spine affords us an example of a structure both supporting and supported: at its fore extremity the head is supported by it; at its hind, the tail; in the middle it supports the chest; while itself is supported by the fore and hind limbs. The head appended to the extremity of the vertebral chain is mechanically operating by its gravity the same as any dead weight placed at the end of a long lever; for which reason, though a long neck is *per se* objectionable, yet are there, as we have seen, some circumstances which may tend to mitigate, and others that will tend to nullify, these objections. A large head will, of course, render length in the neck less desirable; but even in this case much will depend upon the manner in which the head is "set on," and upon the mode in which it is carried, and something upon the form of the head itself. A sort of slang reply used by horse-dealers, when any purchaser objects to a horse on account of the size of his head, is, "Oh, never mind his head, sir! he carries it himself." A saying which, vulgar and absurd as it appears, like the motto in the old song, "means more than it says." For the dealer means his customer to understand that the animal is *capable*—possesses the power in his neck—of carrying his head without trouble to himself or inconvenience to his rider; and that, therefore, his big head is in point of fact not an objection to him, or at least only so far as regards its appearance.

Abstract size of the head is of less consequence than the carriage of it; and, in order that it may be well carried, the head must be properly "set on." Upon this depends the power of getting the head into the proper position. When the head is properly set on, and the neck of adequate length, the riding-master's task becomes comparatively facile and pleasant: for such a horse Nature has done what he by art in vain endeavours to accomplish for a horse of an opposite conformation. In making these observations I am fully aware how much for the better horses having faulty conformation in these respects may, by a judicious system of manege,

be improved: I know that they may, and to a greater degree than people in general imagine; at the same time I shall not be contradicted when I affirm, that there are necks straight or ewed, with heads set on in that fashion, that will defy all the riding-masters in Christendom to get them into a proper position, and make such horses ride in any tolerable form.

There is a great variety in the size and shape of horses' heads, and the indications they afford are no less unerring than useful to us in determining breed, qualifications, &c. The head may be of that ordinary magnitude and suitable character that attracts no particular notice; or it may be disproportionately *large* or *small*, or out of proportion in some of its parts; or such as is accounted *handsome*, or *plain*, or *ugly*; or such as denotes *kind* or *breeding*, or any *particular breed*, or *nationality*.

A LARGE OR BIG HEAD is generally regarded as unsightly—as detracting from the beauty of its possessor, or actually rendering him plain or ugly, and, consequently, a sufficient reason to reject the purchase of such a horse. It does not follow that, because a head be large, it be plain or ugly, although we shall very often find these qualities combined: a coarse, vulgar, large head, with a countenance possessing neither breed nor sagacity, but rather expressive of ill-temperedness, is certainly enough to condemn the unfortunate owner of it, be his other qualifications what they may; but a head which, although large, shews shapeliness, and some breeding and sagacity, and withal has a good-tempered front, ought not to be despised on account of its magnitude. A frequent accompaniment of a large head is, what is called,

A ROMAN NOSE; and this, with many persons, constitutes an additional objection to it: for my own part, however, I do not carry dislike to this head so far as is commonly done. I do not think, myself, that roman-nosed horses are in general ill-tempered, although low bred; nor have I found them inclined to vice: indeed, I can call to mind instances in which horses with such heads have turned out very good of their kind. It is, however, as being the very reverse in form of the blood or Arabian head, a decisive mark of low or rather no breeding, and therefore can only be tolerated in half or coarse-bred horses.

A SMALL HEAD is almost peculiar to the well-bred horse: we rarely see it unless in conjunction with breeding; and yet there may be a vulgarity about its make and expression which, were it not for its diminished size, we should consider coarse and objectionable. It may have neither the forehead, nor the nose, nor the jowl, of the true blood head. In a racer such would be regarded as vulgar, or give rise to suspicions of pedigree; in a half-bred horse it might, and probably would, tend to enhance his estimation; though, when

the countenance did not warrant it, very likely most unjustifiably. Generally speaking, however, a small head turns out to be

A BLOOD HEAD—that which the nearest approaches *the Arabian*, and yet has now become so congenerous with, and characteristic of, our breed of race-horses, that it may be said to be the peculiar attribute of the *thorough-bred* horse. Of all heads this is the one to be lauded and valued. There can be no doubt about *family* when this makes its appearance. At the same time that it possesses breadth and fulness in parts where capacity is needed, it is so "lean" every where, that every vein and muscle in it may be distinguished through the skin. Ample across the forehead, wide between the ears, small and yet expanding at the muzzle, capacious in the throat, and broad though elegantly curved at its junction with the neck, the head of the racer is at once perfect and beautiful, and full of expression, and fire, and sagacity. Blood and action, speed and bottom, are all the natural attributes of a horse having such a head; and though these brilliant qualities may be in a measure sullied by temper, still, in a general way, it is to be regarded as emblematic of all that is good and valuable in the horse species. For all this we stand indebted to the Arabian, the *radix* of our blood stock: although we have, it must be allowed, greatly improved upon the original breed, still for our present unequalled turf-horse are we as much in debt to the Arabian as the farmer or the horticulturist is for his improved vegetable productions to the exotic or graft from another country.

We have been considering the most eligible size and shape, or kind of head; but we have said nothing yet about what, perhaps, is of more consequence than either its magnitude or form, or what, more properly speaking, may in a measure comprehend both, viz. the *face* or expression of the head—the *countenance* of the horse, if I may be allowed the phrase. To persons not conversant with or observant of horses, it is quite incredible what an endless variety there is in this respect; almost as many shades of difference as exist in the human countenance. Take, for example, the Household Brigade of Cavalry, all blacks, and nearly a thousand strong, drawn up in line, and examine with philosophic eye the horses' faces: no two will be found alike; every individual will present his own peculiar expression; and by that look, always indicative of property or propensity of some sort, will he best be distinguished out of a herd of other horses of the same colour. The common mode of distinguishing horses is by colour and marks, and size and shape, and so forth; but this is not the true unerring characteristic: that is to be found in the face alone. In many animals there is an evident difference between the countenances of the male and female; a remark that holds good with horses so long as they continue un-

castrated, but not with geldings deprived of their testicles at the very early age they commonly are. I have on numerous occasions essayed to determine the sex of a horse—gelding or mare—by examining the face when first confronted with the stable door; but I have found myself in error too often to think of drawing any distinct traits of difference between their countenances, and have been forced to confess I knew not whether I were looking at a mare or a gelding. Still, a great deal more information than appears to be imagined may be gleaned from a happy knack of catching the expressions of horses' faces—the science of *horse-physiognomy*.

I possess an esteemed acquaintance on the turf—a gentleman whose judgment in the choice of a racer, by everybody intimate with him, is on all occasions appealed to—who will not purchase a thorough-bred horse unless his countenance be such as he approves of. An ill-visaged, bad-tempered looking horse he invariably declines at any price. His common practice in selecting racers out of large studs is to have the horses for sale brought first to the door or window of the stable, to give him an opportunity of surveying their countenances; after which he only sees out such as he has in physiognomy found faultless.

I remember one day, while in Ireland, accompanying my friend from Dublin into the country, in a buggy, to his chateau, when, as we were riding along, I perchance observed to him, what a pretty foal was running by the side of a thorough-bred mare in a field by the road-side. "Yes," replied he; "and that foal looks to me as if he were got by ———," a racing stallion then in England. "How can that be," said I, "when the horse is not in this country?" "Why," returned he, "the mare must have been imported in foal." "Oh, then I suppose you know that to have been the case." "No! indeed, I know nothing further than that the foal's face has the identical expression of the old horse's." "Then you really must excuse my saying, that it appears to me you are forming an opinion of the sire of the foal upon very slender grounds." "*Slender* as you suppose them, I will make you a wager of a guinea they prove correct." "Done!"—The way to settle the dispute was ready enough: the farm-house of the property lay about half a mile out of the high road. Thither we drove; saw the proprietor, a stranger to both of us; and from him learnt, to my surprise and loss of the wager, that the colt was got by the horse named, the mare having been purchased in England, and brought over in foal.

This little anecdote will serve to remind us, as connoisseurs in horses, that we are not in the habit of paying all the attention we ought to the heads of horses, and in particular to that part of them we call the face. We are told, the *countenance* is "the peculiar property of man"—is the mind pourtrayed in the face: call it what

we may, however, there is in every brute an expression of face peculiar to him or his kindred by which we may not only recognise him better than by any other distinctive character, but in a very great degree judge of their tempers and capabilities. The large head not infrequently possesses a face whose aspect is recommendatory, or of a character so open and good-tempered as to assure us of the tractability and willingness of its possessor; circumstances under which it would be wrong, unless it were in the case of a race-horse, to object to it. I have known a great many good big-headed half-bred horses—hunters, roadsters, &c.—with faces of kindly expression: at the same time I must join in the universal anathema pronounced upon big, *ugly* heads, and particularly when combined with sour, ill-tempered countenances.

The head includes within it three great cavities or compartments:—one occupying the summit, forehead, and temples, for holding the *brain;* a second, extending from the forehead to the muzzle, including the fore part of the face, for containing *the apparatus for smelling;* a third, known as the mouth, in which are fixed the instruments for *the mastication of the food:* in addition to which the head furnishes lodgment for *the organs of sight and hearing*—the eyes and the ears. The throat, likewise, is a part of very great importance: it includes the *larynx*, or entrance-door into the windpipe, and a fulness of it externally is an indication that this aperture is of ample dimensions, and well-constructed for the purposes of respiration: in other words, a full throat, or throttle, is one of the signs of "good wind." In fact, as a general observation, we may assume, that the capabilities of parts are, *cæteris paribus*, commensurate with their development. The Arabian, or blood head, affords a good illustration of this. Its noble broad forehead vouches for an ample share of sagacity; its prominent nose and dilated nostrils, coupled with fulness about the throat and width across the jowl, shews that ample provision has been made for the olfactory, respiratory, and manducatory apparatus: so that, small as the blood head at first view appears, it, in point of fact, is large, or rather capacious, in every part where development of the contained organs is required. Thus, that which is set down as the handsomest of heads, turns out, on examination, to be the most serviceable of heads: in this, as, indeed, in most—in all—other instances in the animal economy, utility and beauty go hand in hand.

The Muzzle, as all the inferior or most dependent part of the head is called, including the nostrils and lips and mouth, is very characteristic of the breed or species. Observe what a difference exists between the muzzles of a low and a high-bred horse: the one, broad and flat and mean-looking, emerging from a line more or less

convex down the front of the face, and curving down into the upper lip, with nostrils over-lapping, and their contracted entrances beset and almost closed by long hairs; the other small enough, as the saying is, "to go into a pint-pot," with every part boldly marked, and its outline, instead of a curve, being straight along the front, or from about the middle of the face, inclining forward or outward even beyond the perpendicular of the line of the face, and, instead of declining, ending abruptly in a prominent point, from which it turns sharply down, at a right angle nearly, to form the upper lip; the nostrils at the sides standing open, with their scanty borders seemingly insufficient to cover them, and with hardly any hair at their entrances. It is difficult to sketch these differences in words: a drawing might serve to elucidate the description; but, to thoroughly understand all that is said, the living subjects themselves must be consulted. The muzzle is a part very characteristic of breeding; so much so that, when other points are dubiously developed, great reliance may be placed upon it alone.

THE EYES strike the most superficial observer as tokens of breed. Everybody has noticed the difference between the eye of an Arabian or English racer, and that of the half or cart-bred horse: the bold and decided brow, and full gazelle eye of the former, cannot fail to attract attention. But there is a very great variety in eyes, and in the impression given by them; hence one reason for the interminable differences in the countenances of animals. I cannot say, myself, I admire an over-full or exceeding prominent eye; there is a sort of unnatural expression about it which I have often fancied has turned out to amount to—what grooms call—"foolishness," and I have, more than once, imagined such horses to be near-sighted. Opposed to this, we meet with the small, sunken, dark-looking eye, which creates a suspicion about temper, and particularly when an expression of what is called "sourness" is to be observed in it. I have seen several instances of viciousness in horses with such eyes, and therefore am I biassed against them; at the same time I have known horses with such sour, ill-tempered-looking eyes, after having been cured of their vice, turn out the very best of their kind. I remember well a dark chestnut horse my father purchased of Dyson, after he had been rejected by the Artillery as a trooper, at the price of £30: he had what are called *pig-eyes*, and a more restive, ill-tempered horse, perhaps, never existed. However, by dint of perseverance in long and daily rides by a bold and fearless horseman, his rebellious spirit was at length subdued, and ultimately he became quiet and tractable enough "for a child to ride;" turning out such a hunter as no fence could stop or the longest day

tire; and being sold to Mr. J. Nicholl for £90, who afterwards refused two hundred guineas for him—any price that could be offered, in fact—in consequence of his turning out about the very best horse in the *old Berkeley* hunt.

There is a notion abroad, that a horse who shews "the white of his eye" is inclined to be vicious; and, like most other notions of the sort, this appears to have had some truth for its foundation, though the truth has been somewhat distorted in the deductions. Some—very few—horses shew the white of their eyes naturally*; many do so by a habit of turning their eyes upon any person approaching them, and particularly in their stalls; which glance askaunt necessarily discloses more or less of the white of the eye. Now this oblique or retrospective cast of the eye may certainly be—and mostly is, perhaps—accompanied with some thought or intention of biting or kicking; but, on the other hand, it may be the effect of habit, of a playful disposition even, and so may not portend any evil. I have met with many cases of both descriptions, where vice was and where vice was not present; but I cannot add, I have encountered such a majority of the former description as to pronounce "shewing the white of the eye" an infallible indication of a vicious disposition.

Before I conclude this Lecture, let me recommend to the notice of my reader the study of *horse physiognomy:* it will, as a horseman or veterinarian, repay him for any time and observation he may bestow upon it; he will find in it the only infallible criterion whereby to recognise an old servant or acquaintance; to enable him to distinguish one horse from another; and, at the same time, will derive from it that sort of knowledge which will give him considerable insight into the propensities and qualities of horses, even before any opportunity has been afforded him of making trial of them. To the acquirement of such knowledge an extensive field for observation is essential, with opportunities of becoming acquainted with the tempers and characters of horses; and, even with these opportunities, it is only by a daily collection of facts, and by deductions cautiously and tardily drawn from them, that we can expect to arrive at any perfection in a science at the present day so undeservedly neglected.

* Animals in general shew only the transparent part of the eye: man and the hog disclose the white of the eye.

COMPTE RENDU OF THE CLINICAL AND CHIRURGICAL LABOURS OF THE VETERINARY SCHOOL AT LYONS DURING THE SCHOLASTIC YEAR 1840-41.

By Professor Rey.

During the scholastic year from the 1st of August, 1840, to the 31st of July, 1841, 1018 animals have been admitted into the hospital, viz. 557 horses, asses, or mules, 4 cows, and 457 dogs, cats, sheep, and birds.

Of the 557 horses, &c., 493 were discharged cured or materially relieved, 32 died under treatment, and 34 were destroyed as incurable.

Of the 457 dogs and other animals, 325 were cured, 81 died under treatment, and 51 were destroyed.

The whole number of animals received exceeded those of the preceding year by 309, a circumstance sufficiently confirmatory of the improved character of the school. The number of horses that died were about one in seventeen—a small number, considering how many were brought to our school with incurable diseases, or which threatened a fatal termination, after every effort to accomplish a cure by the proprietor, the farrier, and the veterinary surgeon, had been attempted in vain; and likewise taking into consideration that, on account of the smallness of our hospital, those only were received whose lives seemed to be in immediate danger, and others sent away with temporary appliances or medicines.

The number of consultations has been very great, attributable to the central position of our school, and the extensive commerce of our city.

Having been entrusted, during the last five months, with the clinical and surgical department of the school, I have kept a faithful register of the number of consultations, the animals that have been the object of them, the nature of the disease under which they laboured, the medicines that were prescribed, and the operations that were performed. In process of time this will give us a complete series of veterinary statistics; interesting on account of its locality, useful to science generally, and particularly valuable with reference to our peculiar art.

In March 1841 there were 398 consultations respecting 218 horses, asses, or mules; 30 horses were visited with reference to purchase, and 4 with respect to possible unsoundness. There were 109 consultations having reference to 98 dogs, sheep, or pigs: altogether amounting to 507 consultations, and 350 animals.

In April there were 355 consultations with reference to 185 sick horses; 36 were visited, 20 examined for supposed unsoundness, and 81 consultations having reference to seventy-five dogs, &c.; in the whole amounting to 436 consultations and 306 animals.

In May the horse consultations were 418, 277 having reference to illness, 37 to examination for purchase, 9 for supposed unsoundness; and 65 with reference to fifty-four dogs. Total consultations 483, animals 388.

In June there were 372 consultations with reference to 208 sick horses—fifty-two visits, twelve examinations of supposed unsoundness; 71 consultations with respect to sixty-six dogs. Total 443 consultations, and 338 animals.

July gave 425 consultations respecting 243 sick horses, twenty-four visits, nine examinations for unsoundness, with 73 consultations respecting fifty-one dogs. Total, 498 consultations, and 328 animals.

Thus, in the space of five months only, there were 2367 consultations with reference to 1699 animals; in addition to which 530 animals were admitted into the infirmary, so that the clinical course afforded 2239 different animals or objects for study in the course of these five months. Among them were eight cows, two goats, fourteen sheep, and twenty-three pigs. The reason of the small number of cattle is, that few of them are bred in these districts, and that scarcely any but dairy cattle are to be met with in this neighbourhood. Every day, however, the students of the third and fourth years were in requisition to attend on some of these cows. This was exceedingly advantageous to them. On every evening they reported to the clinical professor the result of the journey, and the Professor accompanied them when any thing of peculiar interest presented itself.

In a medical point of view the meteorological phenomena of this year have been peculiarly interesting; and particularly in multiplying those diseases, in the production of which the hygrometrical state of the atmosphere exerts so much influence. The strange diseases attributable to the inundation of February have increased the pernicious effects of that unhealthy season, and the habitations that had been overflowed retained a degree of dampness, the ill effect of which was not sufficiently appreciated: thus, glanders and farcy, diseases always frequent in this town, from its being so often surrounded by dense fogs, and its walls bathed by two rivers, have been peculiarly prevalent. In many stables that had been overflown, chronic glanders assumed an enzootic form. Farcy, common among us at the beginning of winter and in the spring, has been less obstinate than usual, and has generally yielded to the employment of the actual cautery, or to the use of arsenical ointments.

Every year we have many foot cases to treat, attributable to the bad state of our roads, the hard and irregular pavement of the streets of Lyons, and the thick and almost permanent collections of mud and dirt which almost every where occur.

The fodder of our horses, not often well housed, but frequently damp and musty, is a too common source of disease. This has been peculiarly remarkable of late, and we have seldom had so numerous and obstinate affections of the skin.

The variable temperature, and the frequent and cold rains that have prevailed, have caused, in the horse and the dog, much inflammation of the mucous membranes of the respiratory passages; nevertheless, it must be acknowledged, that a temperature almost uniformly moderate has rendered the season a healthy one for horses of quick pace, and the general mortality has been small, compared with that of preceding years. We have scarcely observed any of the maladies which are frequent in summer. Meningitis and encéphalitis have scarcely shewn themselves. To the intemperate weather of the spring has succeeded that of autumn, and with them the affections that usually follow in their train.

Epizootic Disease.—A malady resembling the epizootic of 1825 has shewn itself during the spring and summer of this year among horses in the department of the Rhone. Asses and mules were exempt from its attacks. During the months of May, June, and July, this affection has been peculiarly prevalent among the horses attached to the public vehicles. Draught horses destined for private carriages or country work have comparatively escaped. In the twelfth regiment of artillery the disease appeared only in four of the officers' horses. The market horses seemed to be quite exempt from the malady. Mares were oftener attacked by it than horses.

The cause of this epidemic seemed chiefly to be the sudden and great changes of temperature and the almost continued occurrence of the north-west wind. The quality of the food seemed to have little effect, or rather, for the most part, those that were affected were in the best state of condition until the moment of the attack.

We do not believe in the existence of any contagious principle connected with this disease. It was the influence of the same causes on animals submitted to the same regimen and to the same work. Out of a dozen horses belonging to our public carriages in one hilly route, ten were attacked; one of them relapsed and died.

Of two establishments, each having sixty-five omnibus horses, the one furnished us with only one patient, and the other with two. The close packing of horses in these stables seems to be nothing more than an occasional cause of the disease. We had not a single patient in our infirmary.

We may, perhaps, apply to this disease the term which was adopted by M. Rainard to a similar disease in 1825,—*gastro-conjunctiva*. With the exception of a trifling dryness and heat of the mouth, the digestive organs were little affected, and the greater part of the patients altogether retained their appetite. The belly was not distended; the dejections had their usual character, and the gastric affection was far from predominating.

The eyes presented the most striking indications of disease, and, for the most part, these were the symptoms first observed. There was swelling of the lids, and redness, and, in a very few cases, a yellow tint of the conjunctiva. The globe of the eye presented some important characters. The cornea became suddenly opaque, and was often as white as the opacity on the eye of the distempered dog. Sometimes the cornea preserved its transparency, permitting us to see the limpid aqueous humour with a green tint, which was dissipated in a few days, disappearing from the centre towards the circumference.

In two-thirds of the patients there were symptoms of inflammation of the respiratory organs—such as tenderness of the throat, frequent and hard cough, a humid gurgle from the trachea, a discharge from the nostrils of a white mucus a little transparent, and a crepitating *rale*. The horses that exhibited symptoms of pneumonia were unable to lie down: they kept themselves up, but with difficulty, and seemed as if they were every moment ready to fall. The pulse was small and hard. The sounds of the heart had nothing abnormal about them. There were no symptoms of cerebral affection. Generally, the disease assumed everywhere the same simple appearance, and it passed away between the fifth and eighth day. The termination was very rarely fatal. The veterinary surgeons of Lyons affirmed that they did not lose a single patient. Perhaps they regarded as an almost different affection the complication produced by the development of pulmonary inflammation.

Out of a hundred patients that were confided to my care, three died. Two of them exhibited the symptoms and the lesions of peripneumony. In the third the thoracic organs were somewhat affected. They were enveloped by some pounds of serosity; but there was redness of the stomach—a grey mucus of a leaden colour covering the mucous membrane of the small in-

testines, the cæcum, and a part of the colon. During life there was considerable debility on the first day; the extremities were hot—the scrotum infiltrated with serous fluid, and an œdematous tumour appearing under the belly.

Twice we had, on different patients, acute founder, which, however, soon passed away.

The treatment consisted in the employment of bleeding, the exhibition of cooling medicines, and certain cutaneous revulsions. The bleeding was seldom repeated, unless the pulse continued evidently hard. The cooling medicines were nitrated or acidulated drinks—vinegar or sulphuric acid. The revulsions consisted in the application of mustard poultices on various parts of the body, with the exception of the chest, where an œdematous engorgement would have been the consequence. We very rarely had recourse to setons in the chest: in one case their employment produced very considerable swelling. While pneumonia was indicated, blisters were, in preference, applied to the chest.

Rabies.—During the last year rabies has been exceedingly prevalent among dogs. Out of sixty-four that were placed under surveillance, thirty-three exhibited symptoms of madness, and were destroyed. It is to the sudden depression of temperature after considerable heat, and also to certain causes of coldness of the skin, that the frequency of rabies is to be traced.

The examinations after death did not afford any remarkable lesions.

We had the opportunity of observing four cases of rabies transmitted from a dog. Two of the victims were horses, one an ass, and the fourth a mule. The horses were bitten on the right nostril, and the cautery, brought to a red heat, was applied to the wound a few hours afterwards. The one that was first bitten died twenty days afterwards. Two dogs were inoculated with the saliva procured from the mule, but without effect.

If veterinary science is not sufficiently advanced to discover a cure for rabies, we at least have obtained some information with regard to the transmissibility of the disease. We have commenced some experiments on animals of different species, in order to assure ourselves whether the rabid virus, as is pretended by the Italian physicians, really loses its contagious properties, not only in passing from one species to another, but from one individual to another of the same species. We are already in possession of some facts which somewhat tend to prove that the virus preserves its power in passing though many animals. A dog labouring under rabies that had been twice communicated to him, has produced the disease on another animal of the same species. A ram aged fifteen months was bitten in the lip by a dog affected with spontaneous rabies. The disease was sufficiently plain eleven days after the bite. By inoculation with a lancet the virus of this animal communicated the disease to another ram in whom the disease appeared thirty-five days afterwards. This is a singular example of the disease being communicated from one ram to another, although it was originally obtained from a carnivorous animal.

In these experiments we found that, of two dogs bitten, the one immediately after the other, the first only contracted the disease. May we say with Dr. Mazochetti, that the virus is diminished in power after the first inoculation?

[To be continued.]

RUPTURE OF THE RECTUM.

By Mr. J. B. Lord, *V.S., Doncaster.*

On the 17th of December, 1840, I was requested to attend a brown horse, the property of J. B. Linley, Esq., of Hampole, with the following symptoms:—pulse 54, and full; appetite impaired; very dull, and evidently experiencing some pain in voiding his fæces; pain was likewise evinced by his looking towards his flanks. I abstracted blood to the amount of Ovij, and gave a draught composed of spt. æther. nit., tinct. opii, and solut. aloe.

18*th*, 8 A.M.—He seems considerably better; has eaten of the mashes greedily; pulse 44; ears and extremities warm; but his bowels have not been operated on. I threw up an enema containing ol. lini et liq. chlorinat. sodæ.

19*th*, 7 A.M.—A considerable change has taken place since yesterday; he evinces great pain by frequently lying down, rolling, and suddenly rising again: pulse 95, very strong; ears and extremities very cold; mucous tissues inflamed; respiration hurried; pain increasing; the animal pawing and striking the ground in agony, frequently voiding high-coloured urine, and attempting to void his dung. Blood was abstracted, and the draught repeated. On passing the hand up the rectum in order to examine the state of the bladder, and dislodge any fæcal matter, great resistance was offered; but I succeeded in withdrawing a quantity of highly offensive fæces and dark-coloured pus. On carefully reintroducing my arm, I found a rupture had taken place about eighteen inches from the sphincter, and the hand could be easily passed into the cavity of the abdomen. In the course of an hour the pulse rose to 160; respiration was more hurried; cold sweats bedewed the body; the animal struggled violently; and death shortly closed the scene.

Post-mortem appearances.—On opening the cavity of the abdomen, a great quantity of blood, pus, and fæces, were found, to the amount of seven or eight pints. The rupture was on the right side of the intestine, and a great quantity of cellular tissue was attached to it. The surface of the intestine, for several inches round the rupture, was very thin. The parts were quite gangrenous. The other intestines had a slight blush of inflammation. The bladder was a little inflamed and thickened on its upper surface, and contained a quantity of thick mucus.

ON THE EFFECT OF THE DINIODIDE OF COPPER.

By the same.

FARCY.

Case I.—*August* 18, 1840.—The attack was severe; the patient, an aged cart-horse in low condition, with staring coat and impaired appetite. The hind legs were principally affected. They were much enlarged, and numerous farcy-buds appeared, with, here and there, an ill-conditioned ulcer. I commenced my treatment by first giving a gentle laxative, and afterwards a ball twice a-day composed of a drachm of cupri diniodid. with pulv. gentian. et capsic. The diet was liberal, and the ulcers dressed daily with chlorinated lime.

On the sixth day a favourable change had taken place; the swelling of the legs decreased; the ulcers had a more healthy appearance, and the appetite much improved.

On the twelfth day the patient was considerably improved, and the medicine was now given once a-day.

In three weeks the patient was quite convalescent.

Case II.—*July* 18, 1841.—Seven cart-horses, the property of Mr. Long, of Brancroft, exhibited the following symptoms:—profuse discharge from both nostrils of a muco-purulent character, which had existed some time; enlargement of the parotid and submaxillary glands; several ulcers on the septum of the left nostril; swelling of the legs, with ulcers; staring coat, and much out of condition.

The same treatment was pursued as in the former case, and all perfectly recovered in the course of a month.

Case III.—*October* 20, 1841.—An aged chestnut horse, the property of Sir J. Morley, was affected with chronic nasal gleet, and much debilitated. The same treatment was adopted for three weeks, when the discharge had almost ceased, and he much improved in condition; but owing to great debility, and being a favourite, and very old, the owner had him destroyed.

I have two cases under treatment now, and will at some future time take an opportunity of acquainting you of the results, which I hope will be as favourable as these.

ON THE DEUTO-IODURET OF MERCURY.

By the same.

Case I.—*May* 1841.—A bay pony, aged, the property of Mr. Alderman Birley, had induration of the off-knee, from a kick on the inside of the knee. He was lame, and could not bend the knee.

After having it well fomented, I passed three setons around it, and had them dressed daily. In six weeks the swelling had decreased a little, and the knee was much softer. I then began to apply the ointment in the proportion of two scruples to a drachm. It had an almost magical effect on the knee. In nine weeks it was reduced to its natural size, and the pony was quite sound. He is now at daily work, and continues quite sound.

Case II.—*June* 1841.—A cart horse, the property of Mr. Trimmingham, of Marr Grange, had enlarged bursæ that extended around the hock, and contained nearly or quite three pints of fluid: he was very lame, and had been repeatedly blistered, setoned, and fired. After the application of the ointment for two months, the swelling was quite reduced, and the horse was sound.

Case III.—*June* 1841.—A thorough-bred chestnut mare, in the Badsworth Hunt kennels, had induration of the fetlock. She had been stubbed in the near fore leg, and had been blistered and fired on account of it. The ointment was applied three months, and her leg became quite fine.

Case IV.—*August* 1841.—A thorough-bred black colt, the property of Mr. Walker, of Clifton, had enlargement of the inferior maxillary bone. It was reduced after the application of the ointment for three weeks.

In the following cases of splents, &c. there were both great lameness and enlargement:—

A black horse, belonging to Mr. J. B. Linley, of Hampole, had the ointment applied three weeks. He became quite reduced and sound.

A bay mare, belonging to Mr. E. Shorts Martin. The ointment being applied for a month, the splent was reduced.

A brown horse, belonging to Mr. Sheardown, had the ointment applied eighteen days. The tumour was reduced, and the horse returned sound.

A bay gelding, my own property, that had been lame from curbs a considerable time:—I applied the ointment a fortnight; the curbs were reduced, and he became quite sound.

A fine cow, the property of Mr. Long, of Brancroft. The

udder was quite indurated; matter had occasionally formed, and ulcers had appeared on various parts of her bag, in the space from October 1840 to July 1841, when the ointment was applied, and continued until September. The bag was then quite soft and of its natural size, and the cow began to improve in condition.

DIVISION OF THE FLEXOR TENDON IN A HORSE.

By Mr. Samuel Ramsden, *V.S., Ripon.*

Observing in your last number a record of this operation by Mr. Carlisle, and having had a similar one about the same time, but differently performed, I am induced to state the mode in which I proceeded; and I am glad to say that complete success attended the operation.

The horse is the property of Mr. Dunn, of Patrick Brompton, near Bedale. He was placed under my care in October last. On examination I found a considerable contraction of the flexor tendon in the off fore leg. He stood on the tip of the toe; the foot was also much contracted. Ossification of the lateral cartilages existed to a great extent, and the extensor tendon projected from the limb considerably. He is nine years old, and had been in this state more than two years. He worked in the plough until he became useless from the increasing contraction.

After the usual preparation, I pared his foot well out; reduced the heels as much as possible; placed a shoe thinner at the toe than at the heel, turning it up behind in the shape of a staple or D, which I thought might be requisite.

The horse was cast. I extended the leg forward, securing it to a fixture in the ground. The operation was effected by making a longitudinal incision sufficient only for the insertion of my finger through the skin midway between the knee and pastern joints, on the inside the limb, and posterior to the vessels and nerves. I then freed the tendons from their cellular connexion with the suspensory ligament with the finger, which also served to guide the knife in the division of the tendons, which was now effect, directing the blade backwards, and taking care not to cut more of the skin than was necessary for the introduction of my finger.

After the operation he walked about four hundred yards to a loose box. Finding his toe a little elevated, I placed a six-inch roller well padded round the arm above the knee joint, bringing a

double strap down to the staple or D, having a buckle midway to enable me to alter it as I wished. This method was of infinite service. In five weeks he had gentle exercise; afterwards I rode him occasionally, and had him in the cart. He is now at home, ridden when wanted, and sometimes turned out. I saw him on Tuesday last galloping in the field.

Upon reference to Mr. Carlisle's case you will at once see the difference. Mr. C. made a longitudinal section of the tendon, and three inches long, which may be preferable. I cut transversely.

[Some of our contributors will possibly take up this subject. It is a very interesting one, and should be set at rest.—Ed.]

SCIRRHOUS ENLARGEMENT OF THE TONGUE OF AN OX.

By Mr. W. Banister, *V.S., Battle.*

I have long perused your valuable Periodical with great pleasure, and, I may add, profit too, and for which I return you, and the contributors to The Veterinarian, my cordial thanks.

I remember reading in the number for September 1841 a case of scirrhus, or cancer, in the tongue of a heifer, communicated by Mr. James Howell. As these cases are few and far between, and that being the only one I ever saw on record, allow me to introduce one for 1842.

The animal is an ox, aged, the property of a gentleman in the neighbourhood of Battle. He had fed and gone on well through the summer and autumn months of the year until December 9, when an unusual quantity of saliva was observed to drip from his mouth. His attendant, thinking all was not right, requested my father's immediate attendance. He directly took notice of an increased action of the salivary glands. On examining the mouth all appeared right; but the cheeks and parotid glands were much swollen, and there was also considerable engorgement of the submaxillary space. Rumination had now ceased.

The head and cheeks were well stimulated, but no farther attendance was requested.

The animal continued in this state for about three weeks, taking very little nourishment, when a callous enlargement was observed on the posterior portion of the tongue, with several small

abscesses on each side. The proprietor now requested my attendance, in order, if possible, to do something to relieve him from this miserable condition. I had felt inclined, before I saw him, to adopt the mode of treatment which you recommended to Mr. Howell; but, on examination, I found that not only the posterior portion of the tongue, but the whole substance of it, was become a complete callus, and one-third larger than its natural size.

The tubercles were lanced, from which escaped a yellowish matter. I then recommended a solution of the sulphate of copper, zinc, and alum, to be applied twice every day, but it did not afford the slightest relief.

I saw him a few days ago, and was informed that he had been unable to pass any thing solid over the tongue since the tumours were opened. The tongue is now completely studded with tubercles from one extremity to the other, and very offensive, and the food is entirely supplied by the horn.

Seeing his poor emaciated frame, and without the least chance for his recovery, I advised the proprietor to have him slaughtered; but he objects to destroying him, and seems determined to let him live till nature can hold out no longer. I have had an extensive practice in the country among cattle, and also in the London dairies while residing with my respected friend Mr. Easton, of Stratford; but a case of this sort I never before met with.

Feb. 10, 1842.

TAPPING FOR THE DROPSY IN SHEEP.

We met with the following paragraph in the *Nottingham Mercury* a few weeks ago:—

"This singular, and we believe original, operation was performed a fortnight ago at Laxton, by Mr. Esam, butcher, of that village. A ewe sheep was almost dying from the effects of dropsy, when Mr. Esam proposed that he should be permitted to try the effects of tapping. His suggestion being approved of, he made an incision in the side of the animal, into which he introduced a piece of elder as a tube, and drew from the sheep not less than eight gallons of water. It soon began to revive, and is now apparently in perfect health."

Wishing to ascertain the real history of this case, I wrote to Mr. Chapman, an old pupil now practising at Nottingham, and requested him to make some inquiry. He gives me the following particulars received from Mr. Esam:—The ewe was four years old; the pasturage on which she had been fed consisted of

low ground: the incision was made on the right side, about four inches down the flank. The ewe has done well since the operation, and there does not appear to be any return of the disease.

This case is recorded as creditable to Mr. Esam; but our belief is that little dependence can be placed upon the operation, although the immediate result may be favourable. If the system cannot be sufficiently restored to cause the re-absorption of the effused fluid, the relief by tapping will be temporary and delusive. We shall, however, be glad to hear more about this ewe.

Y.

SINGULAR EFFECT OF PUERPERAL FEVER IN A COW.

By Mr. Geo. Cooke, *V.S., Nottingham.*

A cow in good condition, the property of Mr. William Harpham, of Wilford, near Nottingham, was attacked on Saturday, January 8, 1842, with that dreadful disease designated puerperal fever. She had calved on the preceding evening, but, on the owner going to her about eleven o'clock the next morning, he turned her from one side of the stall to the other for the purpose of giving her a little hay, when he perceived her to stagger. He then left her to go round his farm, and returned about three o'clock in the afternoon, when he found her down, and unable to rise. Mr. H. immediately sent for Mr. Pyatt, with whom I am now residing as an assistant. He being from home, I went instantly, knowing that there was not a moment to lose in attacking so formidable an enemy.

As I consider it frivolous and absurd in the generality of writers in The Veterinarian to mention every medicine which they prescribe, and the specific dose, I shall dispense with it, as I am not going to shew the symptoms and treatment particularly, but the effect. I shall, therefore, commence by saying that on my arrival I found my patient down, as before stated, with her eyes closed, and her head thrown back upon her side, with a small quick pulse, about 96. I had some doubt in my mind whether she had the power of deglutition, and, fearful of choking her, I first tried her carefully with a little water from a bottle, when I found that she was capable of discharging that function. I then administered a powerful purgative; stimulated severely the whole length of the spine; ordered her bag to be frequently drawn, and

her body to be well clothed. I then left her until nine o'clock in the evening; and on my return I formed a more favourable opinion of my patient than when I first saw her.

Jan. 9th.—She was able to support her head; frequently moaning; eyes staring and glassy; full pulse, and quick. Venesection until the pulse told me to close the orifice.

Bowels not open; I therefore ordered frequent enemata of tepid water. No appetite.

Eight o'clock P.M.—Better. Bowels open. Give spt. æther. nit. et liq. am. acet. āā ℥j; the same quantity to be repeated three hours afterwards.

10th.—Going on favourably, and endeavouring to rise. About ten o'clock in the evening a messenger came in great haste, saying that the cow was much worse.

I certainly did not like to hear this news. I immediately went, and found her breathing most laboriously, the heart distinctly audible ten yards off; full hard pulse about 76. I again had recourse to venesection, and continued it according to the state of the pulse; I also administered a laxative, and inserted two rowels in the chest. I staid two hours, when, on going to her before taking my departure, I found her much better. Breathing more tranquil.

This was evidently an acute attack of pneumonia, and I should infer that it was the result of metastasis.

11th, A.M.—Better. Administered a little more aperient medicine, the bowels not being sufficiently acted upon.

Eight o'clock P.M.—The bowels open, and the case going on favourably.

12th.—Going on well. Send pulv. sedativ. iiij, one to be given every three hours in Oj of tepid water.

13th.—Breathing tranquil; frequent attempts to rise; appetite good. Restrict her food both to quantity and quality.

14th.—Going on well. Rumination returned for the first time since she was attacked.

15th.—Going on very well. Increase the quantity and quality of the food. Frequent attempts to rise. The owner suggested slinging her. On lifting her up by the aid of several men, and placing her in the slings, which were constructed of bags nailed across a pair of cart shafts, the latter being suspended from beams in the cow-house by means of ropes, we found that she was unable to bear the weight of her body on any of her natural supporters. By means of friction we succeeded, after some time, in restoring sensation and motion in her fore legs; but her hind ones dangled about loosely from her body, as though they did not belong to her. She stood in the slings very quietly with a

man to mind her about seven hours, when he left her for a short time. On coming to her some time afterwards he found her out of the slings (the latter not disturbed), lying quietly and ruminating, to all appearance like a cow in health. How she got out of the slings without breaking them or injuring herself remains a mystery. She was placed in the slings on the following day; but, after being in about two hours, she shewed symptoms of uneasiness and quick breathing. She was taken out, the bags having cut her in several places, as well as obstructed the respiration.

On the 17th I saw her. Appetite good; ruminates as usual. I gave her a slight tap with my whip; she endeavoured to rise, but failed. I severely stimulated the spine; ordered good food, and plenty.

Although she did not now require our frequently seeing her, Mr. Pyatt or myself called every day that we were going through the village. Three or four days after I had again stimulated the spine I called one morning. For the sake of experiment I gave her rather a sharp stroke with my whip. She immediately rose on her fore feet, and sat on her hocks. Thinking that our patient was now going to get up in good earnest, I struck her again; but, instead of getting on the hind feet as I anticipated, she walked around the cow-house in the position I have described, flexing her hocks to prevent her feet from catching in the straw.

She has continued in this state up to the present time—the 8th of February—notwithstanding she has been liberally fed on the best food, her spine repeatedly and severely stimulated, and she has also been placed in the slings frequently. She has appeared in general good health, with the exception of the paralysis below the hocks, the latter being in a dreadful state from the long-continued pressure upon them. Every means having now failed that we could think of to enable her to stand upon her hind feet, and the owner's patience being exhausted, she was destroyed. The above case clearly shews, if evidence were wanted, that it was a disease of the nervous system.

Mr. Pyatt has now a case similar to the above. The cow having recovered from the acute form of the disease, is incapable of rising, although her general functions are healthily discharged. I beg to acknowledge his kindness in allowing me to give publicity to this case. You, or any of the readers of THE VETERINARIAN, would confer on me, and many others, considerable obligation, by favouring us with your views of the cause and the best treatment of these cases.

DISEASE OF THE KIDNEYS AND LIVER.

By Mr. J. Dunsford, *London.*

At five o'clock A.M., August 17, 1841, a bay carriage-horse, well-bred, which had never been known to be under medical treatment, was sent with his partner to take a carriage from Belgrave-square to the Birmingham Railway-station. They were put into the stable while the carriage was being loaded with the luggage; but when the coachman came for them he found one of them very uneasy, and expressing considerable pain. He immediately sent for medical assistance.

Half-past six o'clock.—There were slight symptoms of colicky pain, especially looking back, and turning to the left or near side; the pulse 40, and natural; the breathing slightly accelerated; the mouth cool and blanched; the conjunctival and Schneiderian membranes of the same pale character; the legs, ears, and skin of their natural temperature; the fæces triflingly costive, but no slime. On moving him he reeled, and crossed his hind legs, and would have fallen if he had been forced to walk any distance. Little or no tenderness was evinced on pressure along the spine. He was bled to six quarts. This altered no symptom except the pulse, which was a little weakened. Spt. æth. nit. ℥j, tinct. opii ℥j, were given with warm water. The colicky pains ceased for some hours. An aloetic ball, with hydrarg. submur. 3j, was given, and an injection thrown up. The diet was restricted to mashes.

There was no change through the day until seven o'clock P.M. The colicky pains then returned, and the horse was still looking round to the left side, and pawing with the near foot. There was no other change in the symptoms. The mixture was repeated, and another injection given, after which the pain seemed gradually to subside.

18*th*, Seven A.M.—Pulse 40, and natural; respiration tranquil, but the membranes still retain their pale blanched appearance. The bowels have not been acted upon.

Four P.M.—The bowels are just relaxed, but the horse does not move any better. A fresh sheepskin was applied to the loins, and a slight aloetic ball given.

19*th*, Seven A.M.—Pulse 38. The membranes still retain their colour, and unless the animal is moved there is no apparent pain, nor acceleration in either the circulation or respiration, and the patient will feed on hay or corn, but not mash.

Six P.M.—The stable in which this horse had been up to this time being required, we were obliged to remove him; but it was found impossible to walk him more than a few yards, and he was put into a box near at hand. As the bowels had not freely responded to the former dose of aloes, ʒiij were given this evening, and that acted very slightly. The sheepskin was kept on as long as could be allowed, and the bowels were relieved by occasional doses of laxative medicine.

Sept. 4th.—On moving him from the box he was found to be very little improved. He walked badly, crossing his legs, and reeling to and fro. A blister was ordered over the lumbar region of the spine: but this was done by the owners of the horse; and the animal was, contrary to orders, tied up some time in the day. He hung back, and fell down in a very awkward position, evincing great pain, and his position much interfering with his respiration. He was set at liberty, but continued to heave at the flanks; no notice, however, was taken of this circumstance until we were sent for.

On entering the box our patient presented a very unfavourable aspect. Instead of a pulse varying from 36 to 40, it was 74, and wiry: the respiration was quick and hurried; the urine, which till this time had presented no change, was bloody, and, from the absorption of the cantharides, was often voided. The membranes still presented their usual appearance with the addition of a slight yellow tint. We now had every symptom of complicated disease.

Although no hope was entertained of his ever being serviceable, he was put under treatment. Five quarts of blood were abstracted; four drachms of aloes and one of hydrarg. submur., with one of verat. alb. were given, with sem. lini.

6th.—The membranes were of a deeper yellow; the urine bloody; the respiration not so disturbed; the bowels costive; the fæces slimy; the pulse 76, and small. The medicine was repeated with only ʒj of aloes, and again in the evening, as the bowels were not relieved, omitting, however, the hydr. submur.

This treatment was continued for several days, with no other effect than the secretions of the kidneys resuming their natural state, and the membranes losing their yellow tint, but still retaining their original blanched appearance. The fæces became more healthy; but the bowels never freely responded to the cathartics, although a large quantity of aloes, with the addition of oleum tiglii, were given, amounting, in nine or ten days, to ʒxiv of the former and ʒjss of the latter. From the 5th the horse fed but little, the muscles of the spine wasted rapidly, and on the th he dro pped, and died in a few minutes.

Post-mortem.—The stomach and intestines were perfectly

healthy, but of a pallid hue; the mesenteric glands and bladder were also in a healthy state. The kidneys were very much diseased, particularly the left one, which was enlarged, and of a soft crumbly texture and dark colour, the cortical portion approaching almost to black hue, which extended over the greater part of the medullary or tubular portion.

The capsule of each kidney would peel off like the cuticle from the effects of a blister. The right kidney was also much altered in texture, but not to the extent of the left one. The bloodvessels of this viscus were very large and full, presenting a beautiful arborescent appearance.

The liver was very much enlarged, and an extravasation of blood had taken place in the parenchyma of the right lobe, which had forced its way through the capsule into the abdominal cavity to the extent of seven or eight gallons. The whole substance of the liver was much altered in structure, presenting the appearance of a mass of coagulated blood mixed with bran. The capsule had partly separated from the parenchyma. The peritoneal covering was detached, and forced up in several large patches similar to a small intestine filled with blood.

The pleura and heart were healthy.

The lungs presented both chronic and acute disease. The chronic under the form of tubercles, and the acute under that of inflammation of the parenchyma of the anterior part of each lobe, extending to the middle. The posterior part of each lobe was tolerably healthy. The anterior part of the right lobe had recent tubercles of a gangrenous hue.

The medulla spinalis, from the cervical to the posterior part of the lumbar region, was healthy. The portion in the two last lumbar vertebræ, and the anterior part of the sacrum, was covered, both within and without the theca, with coagulated blood. The bloodvessels were also much distended, and the muscles of a pale hue.

A SUCCESSFUL CASE OF HYDROTHORAX.

By Mr. Geo. Holmes, *V.S., Thirsk, Yorkshire.*

On the 5th of December last (1841), a valuable thorough-bred horse that I had purchased was attacked with pneumonitis. The symptoms were as follow:—The animal had an exceedingly languid appearance; his respiration was increased in quickness and violence; the conjunctiva of the eye seemed vascular; the pulse

about 76, and oppressed; there was a general disinclination for food and motion of any kind, and his legs appeared as groggy as if he had lost their use entirely. Six or seven quarts of blood were abstracted, and then a fever ball administered every three hours. About three or four hours after bleeding the respiration became more natural.

On the 6th, and following day, the pulse was 85, but weak; there was greater languor than on the preceding day; the legs very cold; the conjunctiva had changed from its vascular hue to that of a yellowish shade. As the pulse was so weakly and indistinct, I did not feel myself justified in abstracting more blood, but continued the febrifuge medicine until the bowels were brought into a lax state.

Nearly the same symptoms and treatment were continued until the 12th, excepting that the pulse was quicker and less distinct, and the disinclination for food still remained.

At this stage of the case I felt quite confident that effusion to a great extent had taken place within the thorax, and, consequently, that recourse must be had to the operation of paracentesis, if life was intended to be saved. Accordingly, the trocar was introduced into the near side, care being taken to prevent the external air from entering into the cavity of the chest; but no fluid was found. The off side was then operated upon in a similar way, and about six quarts of watery fluid came away in a full stream. As soon as the stream had ceased to flow, the tube of the trocar was withdrawn, and the orifice neatly and securely covered by a small pitch plaister.

About a couple of hours after the operation, respiration seemed considerably easier, and for the first time in seven days a little mash, with a few carrots, were eaten with an apparent appetite.

After this, I must confess that I deviated no little from the ordinary and even my own accustomed mode of treatment in such cases; for, instead of adopting the usual tonic system, I proceeded upon the following course:—I gave ʒj of hydrar. submur., combined with a diuretic, morning and evening. The sides were close shaven, and ℥viij ungent. hydr. fort., combined with ʒij of hydriod. pot., was well rubbed in, until a slight salivation was produced. The hydrarg. submur. was then discontinued, and only a gentle diuretic given.

On the 14th, four more quarts of fluid were abstracted; and on the 18th rather more than three quarts came away; and the draining seemed now complete, for no more fluid could be abstracted.

From this time a gradual but manifest improvement took place.

From the 18th to the 22d gentle diuretics continued to be given.

23*d*.—Tonics were now administered morning and night for the space of a fortnight. Improvement of condition progressed rapidly, and great appetite was evinced for every sort of food.

On the 6th of January, 1842, medicine was altogether discontinued; the horse took gentle exercise, and lay down regularly. Every day seemed to lend improvement.

Feb. 6th.—Being now perfectly restored to good health and condition, he took regular exercise with the other horses.

Remarks.—In this, as well as in other cases, I have found that the judicious use of hydrarg. submur., combined with a diuretic, proved to be one of the most beneficial primary agents and the best excitant for rousing the absorbents to a healthy action, and, consequently, of invaluable service in aiding in the abstraction of fluids from the thorax.

VARIOUS CASES.

By Mr. James Tindal, *V.S., Golspie.*

Messrs. Editors,—If you consider any of the enclosed cases worthy of a place in your valuable journal, The Veterinarian, they are at your service for insertion.

I am, Gentlemen, your's ever.

EXTRACTS FROM MY CASE-BOOK.

Tibi bene ex animo volo.

CONSULTATION—ENLARGED SUBMAXILLARY GLANDS.

"Fores, March 8, 1841.

Sir,—A grey work-horse, aged, had a cold and cough, with a small round swelling under the jaw, tender to the touch, about a month ago. He was kept comfortable; the swelling rubbed with mild liniment, and poulticed, and nearly dispersed, so as to become imperceptible to the touch; cough quite gone, and condition very good. After working a day or two, the swelling returned, more diffused and soft, not attached to the bone, and, at the same time, a smaller swelling on the opposite side. There is a dropping of watery discharge from both nostrils, but, except when at work, nothing thick or like matter.

I write to know if you would recommend cutting out the enlarged glands at once, or if they can be absorbed, and how? I

am rather in favour of the knife, and would wish to know if you could come down and operate, in which case I shall expect you soon. Your's, &c.

JAS. SINCLAIR.

Reply.

Dear Sir,—In the case of your grey horse, I am of opinion that he has had an attack of catarrh or influenza of a mild form; and the enlargement of the submaxillary glands is the effect of the disease. I would recommend a blister to be well rubbed into these glands, and over the larynx. If the swelling enlarges and becomes soft towards the point, open it freely with a lancet; if not, try the effect of iodine. Give six grains of this drug every night and morning in a bran mash, or in the form of a ball. If there is no amendment in two weeks, apply the iodine ointment—a little of which may be daily rubbed into the enlarged glands. A seton might also be of use. His head may likewise be steamed at least twice a day with a hot mash put into a nose-bag.

If, after a fair trial, these means, with a liberal allowance of oats, fail to cause absorption of the enlarged glands, I would then recommend the application of the knife.

I am, dear Sir, your's always,

JAMES TINDAL, V.S.

EPILEPSY IN A GREYHOUND.

By the same.

February 16, 1841, I was requested to attend a greyhound, the property of A. Craig, Esq., Kirktown. The dog was in very high condition, and had run three long courses during the day. On his way home he was suddenly attacked with epileptic fits, and being quite unable to stand, he was conveyed home in a barrow. On my arrival I found him in an apparent state of insensibility; the pulse oppressed; the breathing disturbed; the pupils dilated; and discharging saliva from the mouth. The cause obviously arose from previous confinement, and too great accumulation of flesh. I abstracted ℥vj of blood, administered ol. ricini ℥j, and ordered a little thin gruel to be forced down frequently. In three hours the physic operated. He now appeared much better, and lapped a little nutritious broth, plenty of thin gruel being placed beside him. He was clothed, and left for the night.

17*th.*—He is on his legs, and quite hungry. We gave him a small allowance of milk and vegetable food, and gradually brought him

to his former feeding. He continued to do well till the 21st, when I received a message, stating that he was "purging large quantities of blood." I sent six balls, composed of opium, chalk, &c. to be given morning and evening. In two days the purging ceased, and he has since been well.

RUPTURE OF THE BLADDER IN TWO TUPS.

By the same.

March 16, 1841, I was called to attend a tup of the Cheviot breed, the property of the same gentleman. I found the beautiful animal very uneasy, constantly shifting his hind legs, and frequently straining as if to void his urine. He was stiff and unwilling to move. There was a quick and faltering motion of the heart, accompanied by great difficulty in breathing. The abdomen was much enlarged, and tender on pressure; he was also costive. I immediately gave him a cathartic drink, as he had been previously bled by the shepherd, threw up enemata, and ordered a pint of thin gruel to be given every two hours, and, if the medicine did not operate in six hours, to repeat half the former quantity, adding a little nitre. Frequent fomentations of warm water were also to be applied to the abdomen.

17*th*, 8 A.M.—Evidently worse. Repeat the cathartic and diuretic medicine, &c. He died at two o'clock P.M.

The post-mortem appearances presented the penis inflamed, and in various parts ulcerated. On laying open the abdomen there escaped upwards of four gallons of a red watery fluid; the intestines were inflamed; the stomach slightly so; the third stomach was quite full and hard; the bladder highly inflamed and ruptured near its apex; the kidneys slightly inflamed. The contents of the thorax were healthy.

The second case occurred two days subsequent to the first. I had no opportunity of seeing it, but was informed that the animal was precisely in the same state as the former.

These tups were with others preparing for the Highland Society's show at Berwick, and their feeding consisted of oil-cake, beans, peas, corn, hay, turnips, and grass. I recommended the feeding of the rest of the flock to be reduced, and their pasture changed, and they have all done well since. Mr. Craig, the owner of the above animals, is perhaps the most successful breeder of Cheviot sheep in Scotland. He gained the greater part of the prizes at the Highland Society's shows at Inverness in 1839, at Aberdeen in 1840, and also at Berwick last year.

ON CASTRATING TUPS.

By the same.

May 14, 1841, I castrated twenty-five tups, the property of J. Hall, Esq., Schebercross. The animal being secured, I uncovered the testicle, and applied the clams on the cord above the epididymis. The clams being fastened, the testicles were cut away from ten of them; the others were left to be removed thirty hours afterwards. Two of the tups died on the next day. I had no opportunity of examining them, but learned that they had got away among the heath and rough ground, and thereby injured the parts so much as to cause their death.

June 29, I castrated twenty-four tups, the property of Gabriel Reed, Esq., of Gordonbush: the clams were used, and the testicles immediately cut away. In every case they were all put on short pasture, and did well.

I have castrated horses and bulls with the clams for the last two years, and have never had an untoward case, with the two exceptions mentioned above. I think it preferable to remove the testicles of tups and bulls whenever the clams are fixed; for by leaving the testicles unsupported by the scrotum, their weight may strain the spermatic cord, and cause peritonitis, and other unpleasant consequences.

There is another, and I believe a safe, mode of castrating practised by some shepherds in this county on the bull and the ram, by bruising or crushing the spermatic cord. The animal being secured, the cord is placed on a piece of wood, and beaten with a wooden mallet until it feels quite soft: the animal is then allowed to go at liberty, and no bad consequences follow, but the testicles become absorbed in eight or ten weeks.

ACUTE DIARRHŒA IN A COW.

By the same.

April 26, 1841, I was called on to attend an Ayrshire cow, seven years old, at Dunrobin, the property of the Duke of Sutherland. This morning she was observed to purge violently. On my arrival I found her dull; rumination had ceased; the anus was swollen and tender; there was a flabby enlargement under the submaxillary; the extremities and horns were cold; and the pulse 60. Abstract six quarts of blood, and administer an aperient of ol. ricini et pulv. opii; also throw up enemata of thin

gruel with Read's patent syringe. Let plenty of thin gruel be given by the mouth every four hours. Give also a bran mash twice a-day, with a small allowance of sweet hay. Keep her quiet and well clothed.

27*th*, Eight o'clock A.M.—The purging less profuse; the animal more lively; pulse 52; legs and ears warmer: had eaten part of the mashes, and drunk a pailful of gruel. Administer the usual astringent powder for cattle in oatmeal gruel.

28*th*.—Much improved. Repeat the medicine.

29*th*.—Quite convalescent.

During the last season catarrhal affections have prevailed to an unusual extent, particularly amongst young cattle, in some of the parks of Dunrobin. The most common symptoms were cough, heaving at the flanks, and rumination suspended. In a few cases the disease extended from the nasal cavities to the larynx and bronchial tubes, and in two cases it proceeded to inflammation of the lungs, one of which proved fatal. The treatment generally consisted of bleedings, with aperient and fever medicine. A change of pasture proved an effectual preventive. These cases occurred in June and July, during which time the nights were invariably wet and cold.

About the same period I had four cases of puerperal fever in cows. They were all in high condition at calving. Three of them died, and one was slaughtered. The first that was attacked at the commencement of her illness was subjected to the most active antiphlogistic treatment. In six days she got on her legs, rumination returned, and I left the case. Two days afterwards, however, I was again requested to see her. I found her labouring under disease of the lungs, and, although the usual remedies were applied, she died in less than twenty-four hours. Post-mortem appearances presented the lungs inflamed, and in various parts mortification had commenced. All the other viscera appeared to be healthy.

A CASE OF HEMIPLEGIA IN A HORSE.

By Mr. W. A. Wilson, *V.S., Carlisle.*

On the 15th of January, I was requested by Adjutant Rice, of the 23d Fusileers, to visit a grey horse of his, which was in a very dangerous state. On seeing the patient, I was at first inclined to consider the case as one of acute indigestion; but a little further investigation convinced me of the true nature of the case.

I was informed by the groom, that on the previous morning he had found the horse loose in his stall, with the collar chain broken. The chain was repaired, and the horse tied up at night with it and an extra new halter. On entering the stable in the morning he found the horse lying with his "head where his tail should be," and apparently in a senseless and dying state. With considerable assistance he was raised, and soon afterwards exhibited the following symptoms:—

He was standing with his legs wide apart, supporting himself with difficulty, and, when any attempt was made to move him, he reeled and staggered like a drunken man. On examining the head I found marks of injury on the right orbit, and the right eye presented the same appearance as when the animal is affected with tetanus. The left ear was drooping, and the animal had lost the power of moving it. The left eyelid was also pendulous, and the eye appeared partially closed. The pulse was 60, and full; but the respiration was not in the slightest degree affected.

The horse exhibited evident signs of terror when made to approach the manger, and finding, upon inquiry, that the hayloft above was infested with rats, and that they had been seen to come down into the racks and mangers, I naturally concluded that the horse, being frightened by one of those vermin, had reared up, and, the collar and halter giving way, had fallen back upon his head, and received an injury which caused partial paralysis.

I abstracted twelve pounds of blood, and administered a brisk dose of cathartic medicine. The horse now continually kept his head turned to the left side, and the masseter and buccinator muscles on that side had lost their power.

On the third day I abstracted ten pounds of blood, and gave a laxative ball. I also recommended the use of laxative medicine internally, and the application of setons and a blister to the head; but the owner, on ascertaining that there was no danger of the immediate death of the animal, objected to any further treatment, as he wished to see what nature would effect in this case. I therefore confined my attention to the animal's diet, allowing no hay, keeping him entirely on soft food, and the bowels being in a laxative state.

A few days afterwards I got several men on each side of the horse, and had him led out for about a quarter of an hour. It was with great difficulty that he was prevented from falling. On the next day the exercise was repeated, and he went a little better; and, on a daily repetition of the walking, he gradually improved, and the groom is now able to ride him out two or three

hours at a time. The animal's head, however, is worse in appearance than it was at the commencement of the disease: the muscles of the face are more relaxed, and the under lip is quite pendulous on the left side. The head, also, is in the position which it first assumed.

The owner at length consented that I should administer some medicine; and for the last three days I have been giving the strych. nux. vom. I think that I can perceive an improvement in the animal already, and in the course of a few weeks I will send you further particulars of the case.

DISEASE OF THE LUNGS AND LIVER, AND ABSCESS OF THE CÆCUM, THE SEQUELA OF STRANGLES.

By Mr. C. Percivall, *V.S., Royal Artillery.*

A bay gelding, four years old, under treatment for strangles, which had suppurated in the usual manner, was taken suddenly ill on the 13th of November, 1837, with symptoms of gripes; but they very soon went off, and he was to all appearance quite well. In the evening he became again very uneasy. There was a small quick pulse; respiration short and quick; coldness of the extremities; and he was frequently turning his head round to his flank.

Six quarts of blood were with difficulty withdrawn, upon which he broke out into a cold sweat, that ran from him in considerable quantity. Stimulants were applied to the surface of the abdomen, legs, &c.

On the following morning his breathing was much more tranquil, and he appeared, upon the whole, to be better. Towards the evening, however, he became decidedly worse again; very restless; frequently up and down; respiration short and quick; extremities and surface of the body icy cold, accompanied with cold sweats.

The venesection was again had recourse to, but it was with the greatest difficulty that four quarts of blood could be abstracted. He died in the course of the night.

Post-mortem appearances.—The right lobe of the lungs inflamed; the cæcum inflamed, and the coats thickened to a very considerable extent, together with an abscess containing a pint and a half of pus. The liver completely disorganized.

DROPSY AND THICKENING OF THE PERICARDIUM.

By Mr. W. A. Cartwright, *V.S., Whitchurch, Salop.*

In the month of August, 1841, a cow of Mr. Tapley's, of the Hollyhurst, had the prevailing epizootic, and got pretty well over it, having only some disease about one hind foot, and which continued up to her death. In the beginning of November she appeared not so well as usual, and did not feed so freely. On the 12th of the same month the owner wished me to see her, as there was a large swelling come between her fore legs. I went over and saw her.

Symptoms.—She was lying down, and breathing pretty freely. She was in fair condition. I made her get up, which increased her respiration, and I could now distinctly hear, at a little distance from her, a peculiar sound in the action of the heart, and which was much louder than natural: it was the sound of a fluid running out of a barrel or bottle when it "wants air." Her breath was of the natural odour, and there was no discharge from the nostrils. There was a large œdematous tumour between the fore legs, extending down to the dewlap. It had been punctured by the owner with the fleam, and I again punctured it with the lancet in several places; but I told the owner there was some effusion about the heart and lungs, and that she, most probably, would not recover. I ordered that some cordial diuretic medicine should be given. In three days after she died.

Examination.—The pericardium adhered to the pleura costalis on the near side, and, on trying to separate the adhesion, I cut through into the pericardial sac, when a large quantity of fluid escaped. The whole of the pericardium was at least a quarter of an inch thick, and I should imagine that there were two gallons of a sero-purulent fluid in its sac, of the colour of whey, but a little thicker, and smelling offensively.

On cutting open the heart there was evidently a disease of the whole of the pericardium surrounding it. There was a distinct layer on it of about three-eighths of an inch in thickness, forming a part of its substance, though differing in texture from it as the fibres lay in a different direction to the other part, and very distinct and of a different colour. The whole surface of the pericardium, within the sac, was covered with a sort of secretion or settlement from the fluid that was within, that could easily be scraped off. It was of a drab colour.

The lungs were in nearly a natural state, and there was but little

effusion in the thorax. The heart itself was sound, with the exception of its covering.

Observations.—This cow was accustomed to lie down more than usual preceding her death, and the action of the heart was only heard to beat so strongly when driven about or excited, and which would subside after she had been standing quiet for a time.

This I consider to be a very rare case.

INTROSUSCEPTION OF THE CÆCUM, AND WORMS OF A PECULIAR SORT IN THE CÆCUM AND COLON OF A HORSE.

By the same.

About six in the morning of the 28th of January, 1842, I was called to attend a valuable five-year-old cart horse belonging to Mr. Daniel Sumner, of this town. He had not been out of the stable, except to the water, for some days, and was considered to be in perfect health. He had never had any thing wrong with him, nor was he having more than a quartern of corn a-day. About seven or eight o'clock on the night before he was taken to the pit as usual to be watered, but it is *said* he drank but little out of it. The next morning, about half-past five, he was found by a servant lying at his full length on the ground in the stable, and unable to rise. He had, in his struggles, produced severe bruises about his head. When I saw him I found that he was in a dying state, and in about a quarter of an hour afterwards he died. He was not in the least swollen.

Post-mortem examination.—There were about two gallons of serum in the abdomen. The stomach was sound, and about half filled with partially digested food. I cut open the whole tract of the small intestines, and found that they contained little food, but a large quantity of mucous secretion, and they had the appearance of being slightly inflamed, or in such a vascular state as would produce the increased secretion. There was less secretion about the ileum.

On arriving at the cæcum I could scarcely make out in what shape or state it was, and thought at first that it was strangulated or mal-formed; I therefore had it removed to my house, where I found that nearly the whole of it had disappeared, but on farther examination I discovered that it was completely turned inside out, and was lying in the colon. That portion of the cæcum was scarcely

any thing more than a mass of blood, and seemed in one place as if it had been grasped by the mouth of the colon, and thus strangulated. This mass of blood (two inches thick) seemed to be thrown out between the muscular and mucous coats, as it was held in by a level surface of the latter. The small portion of the cæcum that lay in the cæcum caput coli, and that could not be everted, was in a great measure healthy. That part of the colon that contained the everted cæcum, and also a yard or more of it, was, on its mucous coat in particular, and throughout its other coats, in a high state of inflammation, and almost of congestion.

The cæcum caput coli and colon contained, I should think, 4000 worms, different to any I had ever met with before. They were of a whitish colour, and none of them above an inch and a half or two inches long, and some did not exceed half an inch in length, one quarter of an inch wide, flat, and about the thickness of a wafer; each surface and edge was covered with transverse lines, similar to the laminæ of the foot, but closer together. One end was quite square, so much so as to lead one to imagine it had been cut off: the other was rounded off, and terminated with a bulbous projection the size of a pin's head, and was, I fancy, the mouth. Some three or four were found in the small intestines, a few yards from the cæcum. The mucous membrane on which they lay was covered with innumerable white specks the size of a pin's head, and which felt a little elevated above the surface, and probably were produced by the worms, as they seemed to correspond in magnitude with the tubercular ends of the worms.

Remarks.—In the second vol. of THE VETERINARIAN, page 252, will be found recorded, by Mr. Hales, of Oswestry, a similar case, and I think that and the present one are the only ones to be found in English journals or works. In the former case the horse lived four days, but in mine only ten hours. I am inclined to attribute this attack to the cold water he drank at supper time. Whether the worms had produced a susceptibility and irritability of the parts I cannot say, but I am induced to believe that they may have had such an effect, as I found both the colon and the cæcum, that were diseased, studded over with small marks, as if produced by the attachment of the worms.

I often think that we are not so cautious, in a great many instances, as we ought to be in taking the "chill" off the water that is given to horses in a state of domestication, as I am sure I have seen many cases where spasm and ultimately death have been produced from such a cause. I have been repeatedly called up towards five or six o'clock in the morning, to attend horses that have been ill with spasm or enteritis, which I have

thought had been produced by the cold water they had so freely drank on the preceding night. If spasm is produced by watering horses in the middle of the day, it is not of so much importance; but if it happens at night it is of more serious consequence, as they are left entirely alone for the whole night, and perhaps out of hearing; and even if a noise is heard in the stable, it is only attributed, probably, to the habit that some horses have of stamping with their feet. As to the species of worms, they are certainly new to me, not having met with any thing like them before. I have shewn them to two medical gentlemen, who said they were not to be found in the human subject.

In the different editions of "White's Compendium of Cattle Medicine," will be found, when treating on the diseases of dogs, under the head "worms," the only account like them that I can meet with in veterinary authors, and which I will transcribe, viz.:—

"I have met with different kinds of worms in dogs; but most commonly with the tape-worm, and another that I have named the ribbon worm, from some resemblance it bears to a very narrow white ribbon, the transverse threads of which are most conspicuous. On examining the worm, however, with a magnifying glass, these transverse lines appear as scales placed nearly perpendicularly and inclined a little backwards. One end of the worm has a bulbous appearance, and with this it attaches itself to the bowels; the other end is flat and square. I have lately had some of these worms brought to me that were voided by a man; he called them blood worms; and from some that I have seen, it appears that they do sometimes suck blood from the bowels. They may, therefore, be considered, perhaps, as a species of leech; and as they have been seen in a stream of clear water, it is probable that they are taken in the stomach with the water the animal drinks.

"This subject is of importance; for I have discovered that, in a village where I have occasionally resided, named Oak-hill, where all the water with which the inhabitants are supplied flows over the surface through fields, the inhabitants are very subject to worms, and several of them to tape worms, and that many of their domestic animals are infested with this small species of leech worm. I have found the small leech worm after death in the small intestines of their domestic animals; even in the dog and cat. Horses I find, especially when affected with mesenteric consumption, have generally got them. The longest leech worms are those found in the bowels of the dog and the cat, where they are well supplied with chyle, though the habitation is much smaller. In the consumptive horse they are generally small, and

I have seen them literally starved, and full of grumous blood. It is remarkable that I never met with this worm until I resided in Somersetshire, and that since that time I have often seen them in kennels and other places, especially in the miserable animals employed in carrying coals from the pits to the neighbouring towns and villages."

From this quotation it will be observed that he does not mention the length of them; but from his calling them "leech worms," one is inclined to believe that they were but short, though he may use this term on account of their supposed suction of the blood.

Some few (not one in fifty) of those in my case were of a darkish colour, as if they had contained a little blood; but I did not open them.

CONSULTATIONS.

No. XXVI.

A Case of Vomiting in a Cow.

By Mr. Joseph Carlisle, *V.S., Wigton.*

My dear Sir,—Permit me to ask your opinion respecting a case of vomiting in a cow which has existed for about ten days, and set at defiance all my endeavours to overcome. I do not perfectly understand the cause of it, but I suspect it to be some foreign substance in the rumen or first stomach.

The cow was in perfect health and prime condition when the vomiting was first observed. She has about three months to go in calf, and is beginning to look very thin.

Bleeding and purging have not done any good; in fact, the owner is not agreeable that any more medicine should be administered, as she is generally much worse after it.

She is at all times anxious for food, and will eat a good quantity of bran mash and turnips; but the moment she has finished her meal, and particularly if she should get a little hay, she will begin to shew symptoms of uneasiness, and commence vomiting; previous to which she will curve her back, straddle with her hind legs, and frequently urinate. The rumen becomes distended with gas, and a regurgitating motion is observed in the course of the œsophagus. She continues to vomit at short intervals until the whole is ejected. She will sometimes retain her mashes for a day, and appear quite well, but the moment she receives a mouthful of hay the vomiting returns.

I saw her to-day; her pulse is 40, and the bowels regular. This is the pith of my story; and, induced by your kindness on former occasions, I would beg you to give me your opinion of the case, and the treatment which I must adopt.

My dear Sir,—I scarcely know what reply to give to your letter just received. There is an abnormal irritability of the rumen, but it discovers itself in a singular way. Mashes and turnips undergo the usual processes; but as soon as the titillating, half-masticated fibres of hay come in contact with the lining membrane of the viscus, vomition is excited.

If the owner will consent, you might have recourse to creosote in doses of two minims, morning and night, and this might be increased to four minims on the fourth or sixth day. I have many times witnessed its power in allaying the irritable stomach of the dog, and I account it a most valuable medicine for this purpose. It is worth trial in other quadrupeds.

Should vomiting, however, be excited rather than allayed by the creosote—for there seems to be an occasional fickleness in its action—its use must be immediately abandoned.

You probably recollect the case of vomiting in cattle related in the work "Cattle," p. 456. Is there any parallel between the cases?

Try the creosote, and let me know the result.

Faithfully your's,

W. Youatt.

A SINGULAR CASE OF ANASARCA IN A HORSE.

By M. Clichy, *M.V., Janville.*

On the evening of the 30th of June, 1841, M. Dargent, a farmer, perceived that one of his horses that was led out to drink was lame in the hinder left leg. It had done its work during that day without any appearance of lameness, and with its usual willingness and spirit. On examining the limb, he found that it was only when the fetlock was pressed upon that the lameness was observed. He attributed the lameness to a sprain.

The horse, after having drunk, was led back to his stable, and about an hour afterwards presented the following symptoms. The left fetlock was enlarged and very tender. Half an hour after that the other was as bad, and the animal began to refuse his food. The swelling now began to extend to the canon-bones, the

hocks, and the thighs, and, in two or three hours after the first appearance of the ailment, the extremities had enlarged to a very great size. Nothing was done until the morning, when my assistance was requested. He was an entire horse, three years old, tall and muscular.

The serous infiltration comprehended not merely the posterior extremities, but had extended to the testicles, the sheath, and the abdomen, and partly involved the cartilaginous circle of the ribs. It involved the place of girth, the chest generally, the cellular substance surrounding the windpipe, and the crest of the neck. Between the branches of the lower jaw, the lips, and the alæ of the nose, was the same infiltration. The contraction of the nasal orifices, occasioned by the infiltration of the alæ of the nose, and the mechanical pressure of the enlarged upper portion of the throat on the cartilages of the larynx, rendered the respiration exceedingly laborious and loud.

I contented myself at first with bleeding my patient, and inserting a seton at the fore part of the chest, with some potential caustic on the internal surface of the thighs, and ordering some injections to be thrown up. I urged upon the owner that the horse should not be left a moment, and therefore desired that he might be sent to my stables, which were scarcely a mile distant.

He arrived in the evening. The fore legs were now exceedingly infiltrated; indeed, all four were in such a state of tumefaction as I never saw before in any animal. There was not a portion of the horse which did not seem twice its natural size.

July 2.—The infiltration has increased in a most extraordinary manner. It is utterly impossible to move the animal from his place. The articulations of the extremities are completely effaced. The testicles and sheath disappear in the mass around them. The chest and the neck are confounded together. The space between the lower jaw is continuous with the under lip, while the upper lip cannot be distinguished from the alæ of the nose and the face generally. Not a single portion of the external part of the frame retains its primitive form, but the whole is one mass of deformity. There were only these boundaries—in the head it was limited by the base of the ears, the eyes, and the forehead; and in the neck it proceeded not beyond the humero-mastöideal muscle and the middle of the shoulder, and the cartilaginous circle of the ribs.

This affection of the subcutaneous cellular tissue has the character, with all the serous effusions of this nature, of being extensively diffused, without much heat or sensibility, and of yielding to the pressure of the finger, and preserving the impression, and which is only effaced gradually, and in proportion as the pressure

is removed. The symptoms are nearly the same in anasarca and œdema, this difference alone existing, pathologically speaking, between the two affections,—that œdema occupies ordinarily only a small portion of the trunk, while anasarca extends over a wider surface, as in the present instance, where it spread over more than half the frame. As to the mode of development, it is the same in both.

Causes.—Anasarca appears to me to be developed under the influence of some exterior cause, as in the present case. On the morning of the day in which our patient became ill, a cold rain, coming all at once, suppressed the abundant perspiration, which more than usual hard work had occasioned. But, wherefore, in this case, did it act in so sudden and violent a manner on the animal economy? Wherefore this peculiar mode of development? Is it to be attributed to some peculiarity of constitution in the patient, or to his age, or to a peculiar disposition in the mode of vital action in some particular organ? The solution of these questions is difficult.

3*d.*—The infiltration is gradually increasing. The animal is depressed,—he hangs his head—his eyes are dull—his mouth is hot—his saliva is ropy—the tongue is thickened, inflamed—there is great difficulty in breathing—the urine is in small quantity, red, and with abundant sediment—the bowels are constipated. I could only explore the pulse at the temporal artery: it is small and hard—the appetite is gone, and the thirst not great.

Treatment.—Throughout the whole extent of the anasarcous swelling, I introduced, at distances of nine or ten inches from each other, cylinders of caustic potash of different lengths, according to the depth or the situation of the infiltration—each piece being kept in its situation by pledgets of lint introduced into the orifices. Barley gruel was administered by a syringe, the lips being perfectly immoveable. Light astringent gargles were also used, and emollient enemata.

Considerable exacerbation of every symptom took place in the night.

4*th* and 5*th.*—In the same state. The same treatment, except the removal of the cautery.

6*th.*—The state of anasarca the same. The lint of the different caustics was now removed, and in such a manner that scarcely a vestige of the places which they occupied could be seen. Some hours afterwards a small discharge of limpid fluid without any smell began to ooze from these openings. Three or four times in the course of a day, these parts were washed with an infusion of aromatic plants, to which was added a small quantity of liquid ammonia.

8*th*.—The breathing is evidently relieved, and the infiltration of the lips and nostrils is diminished. These organs are less oppressed. The eschars from the caustic are beginning to separate, and the serous discharge from them is more abundant and permanent. The animal tries, but in vain, to seize his food with his teeth. He does contrive to sip up a small quantity of white water. There is considerable infiltration from the sheath of the penis, and he has a certain degree of paraphymosis; nevertheless, his urine, although rarely passed, was voided without difficulty. Gruel, with a portion of nitre in it, was administered, and emollient injections, with hydrochlorate of soda.

10*th*.—The patient is out of spirits and droops his head—his eyes are closed—his appetite is gone—the mouth is dry and clammy—the buccal membrane is of a yellow colour—the breathing is quick and laborious—there is a slight cough—the pulse, still examined at the temporal artery, is feeble—the body is cold, and the animal exhales an insupportable cadaverous smell—the urine is bloody—there is obstinate constipation—the infiltration from the prepuce is increased—the penis is always pendent. Continue treatment.

11*th*.—The temperature of the body is icy—all feeling is gone—the cadaverous odour is, if possible, worse than yesterday—it is impossible to change the situation of the patient—he staggers, and threatens to fall if touched. At night he swallowed a little gruel. Treatment as before.

12*th*.—No change. He has taken a little nitrated gruel. A little salt is placed in his clysters. Stimulating lotions applied.

13*th*.—The animal was, early in the morning, in a state of anxiety and suffering difficult to describe. The cadaverous smell was perfectly insupportable; it was impossible to remain long in the stable without sickness. Plentiful sprinkling with the chloride of lime destroyed this mephitic vapour, and enabled us to examine and to render proper assistance to our patient. His flanks were fearfully agitated—the body was cold all over—the sheath of the penis was enormously swollen, and hung down almost to his hocks: the suppuration of the caustic and seton has stopped. I made several deep incisions into the chest and part of the sheath, and there escaped fifteen or eighteen pints of a limpid fluid, of a yellow colour, and devoid of smell. At noon the infiltration of the sheath was no longer perceivable—the penis had again entered into it, and these parts presented nothing more than a slight engorgement. Treatment as before. At night the animal swallowed his gruel with avidity.

14*th*.—The eschars on the head have fallen, and pus of a good character has issued from the wounds. The animal is in better spirit

—the respiration is more free—the temperature of the body is more developed, as well as the animal sensibility—the cadaverous smell is diminished. The eschars on the belly and the extremities are coming away, and pus of the same kind as that in the sheath escapes in large drops. The seton also discharges laudable pus. Treatment as before. The animal has taken a little fibrous food.

15*th.* — In the course of to-day all the eschars fell off. The flow of purulent matter is more abundant than yesterday. We can now explore the pulse at the maxillary artery. It is small, slow, and soft. Plenty of gruel is allowed. A few oats were given, which the animal seized with avidity; but his mastication is slow, and apparently painful. At night he had some sulphuret of antimony with his corn, and slightly purgative injections.

16*th.*—His spirits are even better than yesterday. There is much amendment with regard to the anasarca. In all the wounds and eschars the flowing of serous fluid has given way to abundant suppuration, and that of the best character. The pulse is still, small, and soft—the temperature of the body is natural. In consequence of this disgorgement from the abdomen and limbs, his locomotion is more free. I have prescribed light walking exercise in a court in which he cannot be meddled with. While he is taking this exercise the pus runs freely from the seton and the wounds. Plenty of gruel; but his other food somewhat restricted. Equal parts of quinine and savine were applied to the wounds.

17*th.*—Still improving. He has neighed for the first time. The appetite good—the suppuration abundant. Walking exercise. Food as before.

20*th.*—Nothing is left but a slight enlargement of the parts that were the seat of anasarca. The suppuration is still more diminished. The animal has lain down for the first time since the commencement of the disease. During his walk he attempted to make his escape from the man who led him.

21*st.*—He appears to be perfectly recovered. He is in good spirits—frequently neighs—lies down with ease—and eagerly defends himself if any one interferes with his food.

22*d.*—Returned to the proprietor twenty-two days after he came into the hospital. The anasarca has entirely disappeared, with the exception of a slight engorgement of the hind limbs, which friction will soon remove.

Rec. de Méd. Vét., Dec. 1841.

ON EPIZOOTIC DISEASES.

By Mr. W. Youatt.

[Continued from page 38.]

For many centuries after the commencement of the Christian æra there is but little account of these maladies; not that they rarely occurred, but because there were few writers capable of recording them. We in vain look for any thing satisfactory relating to such matters in the strangely-written chronicles of the cloister, or in the lives of the saints. The few fragments, however, that may be gleaned, we will endeavour to collect, but deprived of the marvels which give them so suspicious a character.

Columella, who flourished about the year 40, speaks of a pestilence occasionally appearing among cattle. It was accompanied, or characterized, by cough and emaciation, and, ultimately, phthisis. He says, "when this lights upon a herd, you must presently change the climate, and distribute the cattle into several divisions, at a distance from each other, and so separated that not so much as one may come among them that may, with the contagion, infect the rest. Then a seton must be placed in the ear, formed of the root of the *pulmonaria*, or lungwort, passing through the ear in a very peculiar way, and with some superstitious ceremony. After this there must be administered, for several successive days, a half-pint of the juice of the leek, an equal quantity of olive-oil, and a pint of wine."

A tumour is also described by the same author as appearing on the palate, and causing swelling of the tongue and buccal membrane, producing some cough, and interfering with the breathing. We have had quite enough of these tumours in the late epidemic among cattle. Columella describes this character of the disease as frequently dangerous, and the forerunner of absolute pestilence; and so it would be if neglected. He advises the application of the heated iron; the setons, already described, to be inserted in the ears; and the juice of the leek, mingled with salt, to be administered internally. The most important remedy of all, however, according to this writer, is change of air.

A very similar disease appeared in the mouths and on the lips of lambs and goats. He traced it to the youngsters being too soon in the morning suffered to quit the fold. Those that were sucking almost invariably died; they who were weaned had a somewhat better chance. His remedy, and not a bad one, was

to mix together equal parts of hyssop and common salt, and rub the lips well with it, applying afterwards an ointment composed of equal parts of pitch and hogs' lard.

From this period to the middle of the fourth century, although there are slight accounts of occasional pestilence, there is nothing of sufficient importance to detain us. Absyrthus, a veterinary surgeon in the army of the Emperor Constantine, wrote a work on the diseases of horses in the year 370. It is valuable on account of the age in which it was written, but is unsatisfactory with regard to the subject on which we are now treating.

An interesting poem was written on this pestilence by Cæcilius Severus, in 370. This pestilence took its origin in Hungary, and it was at that early time observed that almost every pestilence that prevailed in Europe either derived its origin from Hungary, or was more violent and destructive there than in any other country.

It was remarked in this pestilence that the cows that yielded milk did not die so soon as other cattle, nor so soon as their calves; shewing the kindly power of nature in preserving the mother, at least until her little ones were gone. This observation has often been made both in early times and at later periods. The udder of the mother is a kind of emunctory, by means of which a portion at least of the poisonous matter is removed from the circulation of the animal. This is to a certain degree confirmed by the fact that the establishment of a seton or drain is always to a greater or less extent advantageous. It lessens the virulence of the poison, and relieves, if it does not preserve, the life of the mother.

In the year 376 an epidemic raged over the greater part of Europe. Then the practice first commenced of applying the red-hot iron in the form of a cross to the forehead of the beast. By this means the operator was said to cure one-half of his patients and to save the other. This wonderful efficacy is more than doubtful, and yet the sudden torture of the fire might rouse the sinking powers of the animal, and enable him to weather the storm. At all events, this mystic ceremony became universal not only with regard to this, but many other maladies of the brute creation, and was sometimes extended to the human being.

Somewhat before this period, or very shortly afterwards, and during the reign of the Emperor Constantine, there arose among the veterinary surgeons of the army a laudable desire to understand and subdue the ailments of the domesticated animals; and patronised by the Emperor Valentinian lived Vegetius, Count of Constantinople, who did not deem a work on the veterinary art unworthy of him. He composed it as much at the solicitation of

his friends, as on account of the pestilential diseases which had for a considerable period devastated the country; and, treating of which, he, to a certain extent, included diseases of every kind. The greater part of his labours were subsequently lost, but his work on epidemics remains. Although it contains numerous errors, it is the most perfect work on the subject of which antiquity can boast. It contains the substance of Chiron, Absyrthus, and Columella. If he sometimes appears to copy those who preceded him, he improved upon them all. We perhaps shall wonder a little at the different symptoms and different treatment of some diseases, but there are parts which cannot be improved upon at the present day. Take, as an illustration of this, his account of the symptoms of malignant epidemic. "The animal is dull and out of spirits; his flanks heave convulsively; the respiration is unnaturally laboured or precipitate; the eyes have lost their expression, and the gaze is fixed; the ears are cold; the head is depressed; he has ceased to eat or to ruminate; he falls away every day. At its commencement it is difficult sometimes to distinguish this from simple fever. He who would act prudently will separate the animals for fear of communicating the disease to others. At the expiration of one or two days it will be clearly enough seen whether it is an ordinary or malignant fever, and medicine will be administered and care will be taken accordingly."

There are, according to him, seven or eight kinds of epidemic and other diseases. The first is called *malis*, par excellence. It is principally distinguished by a discharge from the nose resembling glanders—a thick, mucous, sticky fluid constantly flowing, of a noisome smell and pale colour. The animal hangs his head; there is weeping from the eyes; difficulty of breathing is observed; his coat is strangely rough; the countenance is repulsive, or, sometimes, horrible. Occasionally a little blood runs from the nose mingled with mucus; at other times the discharge is of a saffron colour; soon after which the animal is almost sure to die.

The second malady is called *the dry disease*. The animal coughs and breathes with pain. There is no discharge from the nose, but the alæ of the nose are dry and open. He is drawn up at the flanks; the spine of the back appears to be contracted and curved; the testicles are drawn up, and scarcely to be seen; no appetite; the thirst is unquenchable; the eyes fixed, and it appears as if he regarded the objects around him obliquely; he can scarcely move himself or lie down. This disease is regarded as incurable if prompt succour is not afforded at the commencement.

The third variety is *the subcutaneous disease—scabies subcutanea*. It consists in ulcers or excoriations on different parts of the body, like the pealing off of mange. An acrid humour is

discharged from the skin of a green colour. There is a sad degree of itching. The animal is continually rubbing himself against the trees and walls It is exceedingly contagious.

The fourth species is an articular disease—*morbus articularis.* It principally attacks the feet. The skin clings to the bones—it is rough and hard to the touch—the bone of the spine is pushing through the skin — the hair stands on end — the whole body seems contracted and curved and extenuated by famine. This disease rapidly progresses, day after day, and it is with great difficulty that its progress can be arrested.

The fifth species is farcy—*morbus farcinosus.* In this disease, on many parts of the body, and particularly on the hind limbs, numerous granules or small tubercles are collected together. They appear on the haunch—on the parts of generation—on the sides—on the articulations. The tubercles disappear on some parts to shew themselves more thickly and annoyingly on others. The animal evidently grows thin, although his appetite continues the same. Sometimes all the eruptions disappear for awhile, and he seems like other animals. Bleeding is of no service in this disease.

The sixth species is connected with the kidneys—*morbus subrenalis.* It appears to resemble more a disease of the kidneys than any thing else, and therefore the name that is given to it. Sometimes the whole of the hind limbs are seemingly affected with palsy. The animal is unable to move. This is generally a fatal symptom. He coughs with pain—his countenance expresses dreadful suffering—the skin adheres to the parts beneath—the spine of the back is prominent—the patient loses all inclination to eat or to drink—he almost seems to get thin as we look upon him—and, if prompt succour is not afforded, he dies. The loins are the parts first affected.

The seventh species is the *morbus elephantiasis—the leprosy* of quadrupeds. The skin is rough and hard to the touch—there is a burning heat over the whole of the body, especially on the back—large scabs are formed, resembling the bark of trees—the nose, the head, and the feet, are covered with small granules or pustules. Ozena frequently accompanies this disease.

Beside these seven species of disease, of which the greater part are chronic, there are others of an acute character; of this kind are those allied to mania, whose seat is principally in the head. The patients neither see nor hear as usual. They are either dull and stupid, or become formidable by their disposition to mischief. They die before they scarcely begin to lose flesh.

Such is the account which Vegetius has left of the diseases most to be feared, and the greater part of which have occasionally,

at least, an epizootic character. He has a little wandered from his subject, and we have gone with him ; but we could not resist the temptation of seeing what account the best veterinary surgeon of former days gave of the principal diseases to which the horse, and occasionally other domesticated animals, was subject. Perhaps, in the divisions which he has made, he has not sufficiently distinguished the chronic diseases from the acute; and he has strangely passed over the different varieties of fever which mingle with, and form the essence of, all other diseases. He has contrived, however, to give us a bird's-eye view, and not a very incorrect one, of our art, as it existed 1500 years ago.

As to the curative means, and the precautions which are to be taken with respect to these diseases, and all that are contagious, our author recommends the same as were practised by Columella, and principally setons and the actual cautery. He insists more than Columella on the danger of the sick and the diseased occupying the same place, and recommends change of air and pasture. Every danger and every evil results from the negligence of the master of the farm, and not, as many are accustomed to think, from any foreign or superhuman agency.

In his treatment of sick animals he places much dependence on the Scolymus, or Golden Thistle, made into drinks or balls, and given with sulphur, origanum, and coriander.

THE VETERINARY ART IN INDIA.

By J. Grellier, *Esq.*, *M.R.C.S.*

[Continued from page 111.]

SECTION I.

OF GENERAL DISEASES.

In order to elucidate this subject, I shall endeavour to give a short account of the present prevailing opinion relative to general causes. This will develop a system which must be admired for its simplicity, founded on a collection of simple facts and accurate observations of the progress of nature, by which the study of physic is now rendered pleasant and truly useful ; and as these principles exist in every living system, and are also supposed to pervade the whole vegetable world, they may perhaps be interesting to those who have never made this branch of natural philosophy their study.

Every muscle in the body is composed of innumerable fibres. These fibres have the power of attracting from the blood its irritable property, by which they become saturated with what is termed irritability. This principle is the property of life ; but to

effect animal (and perhaps muscular) motion, it must be acted upon by a power or antagonal principle, which is found in the natural stimulants, as the passions, food, &c.

Thus there is a state of irritation, which every fibre in the body possesses, called irritability; and the antagonal power is termed stimulus. It is the action of this last on the former which produces life.

The irritability is a property continually accumulating in every fibre throughout the body, and is for ever acted upon by the natural stimuli, as food, passions, heat, &c. This action supports a kind of equilibrium; that is, the power must not be greater than the property, consequently health depends on their proper balance.

Since the death of the celebrated Dr. Brown, who was the founder of this system, the irritability has been accounted for in the following manner, and supported by numerous very ingenious yet simple experiments*.

The atmospheric air is composed of two fluids, in about the following proportions;—nearly three parts of azote, which, of itself, cannot support life; and the rest oxygen or pure vital air, which qualifies the former for respiration and combustion†.

The vital air possesses a stronger attraction for blood than for azote, with which it is combined in the atmosphere; consequently, if the atmospheric air comes in contact with blood, the vital air leaves the atmosphere to reside in it.

This process is effected in respiration, when we inhale. A quantity of atmospheric air comes in immediate contact with a considerable quantity of blood in the cells of the lungs, by which the pure vital air is separated and absorbed by the blood, while the remainder is exhaled by the breath. It is the vital principle of the air thus imbibed that is supposed to convey irritability to the system.

The blood, replete with this irritable property, flows to every part of the body, and supplies the muscular fibres; as the fibre possesses a still stronger affinity for the vital air, now called irri-

* Dr. Brown, in his Elements, not knowing the properties of irritability, calls it excitability; that is, a power acted upon by excitement or stimuli: but he never accounted for the source that supplied the fibres with this property, which is now supposed, from a number of experiments, to be irritability. Dr. Darwin employed oxygen to account for his theory of metaphysics. It will be understood, in the present instance, that oxygen is only employed for the animal fibre for the purpose of animal life.

† I have not introduced hydrogen or carbonic acid gas, which are usually found in very small quantities in the atmosphere, as I imagine them to be mere emanations from the various operations on the surface of the earth, and being by no means homogeneous to the atmospheric air.

Every material, whether in a solid or fluid form, possesses an attractive power in different degrees; this power is termed chemical affinity, on which all the phenomena of chemistry, and perhaps of nature, depend.

tability, than is possessed by the blood. The blood, thus exhausted of all its irritable properties, returns to the lungs, to become renovated and resume its former functions.

The fibres thus accumulating would in a very short time produce disease, and even death, by rendering the whole body violently irritable. This is prevented by a power being supplied, which possesses a yet stronger affinity for irritability than the fibre, or, more properly, conveys it from the body.

This property exists in every thing under the name of stimulants, and is supplied by heat, exercise, sensation, the passions, emotions and desires, as love, anger, &c.; also by food, particularly if of a spicy and heating kind, as wines, spirits, &c., all of which have the property of consuming the irritability from the fibre; and if they are supplied in excess, they more than consume the redundance, and exhaust the fibre, which will induce indirect debility and disease. If on the contrary the stimulus is not sufficient, the irritability (which now being explained we will term excitability) accumulates, and produces diseases of an opposite nature.

It may be questioned how the whole body can be deprived of its excitability by a local application of stimulus, as in spirits taken by the stomach to excess, &c. But a communication exists between every fibre in the body, by which, one set being exhausted, this is soon supplied by the rest. This is proved in exhaustion, and general debility, arising from a debauch. The excitability keeps up nearly a balance throughout the system, and the communication is so general, that the excitability of the whole body may be exhausted by local applications of stimulus.

By this it is obvious that health must depend on the due quantity of these principles, and an equilibrium being supported in the system; and, however numerous the diseases may be to which the animal is subject, or whatever shape they may assume, it must proceed from this balance being destroyed, and consequent excess of either the excitability or the excitement; and it is the knowledge of the action existing between these that must direct the mode of relief.

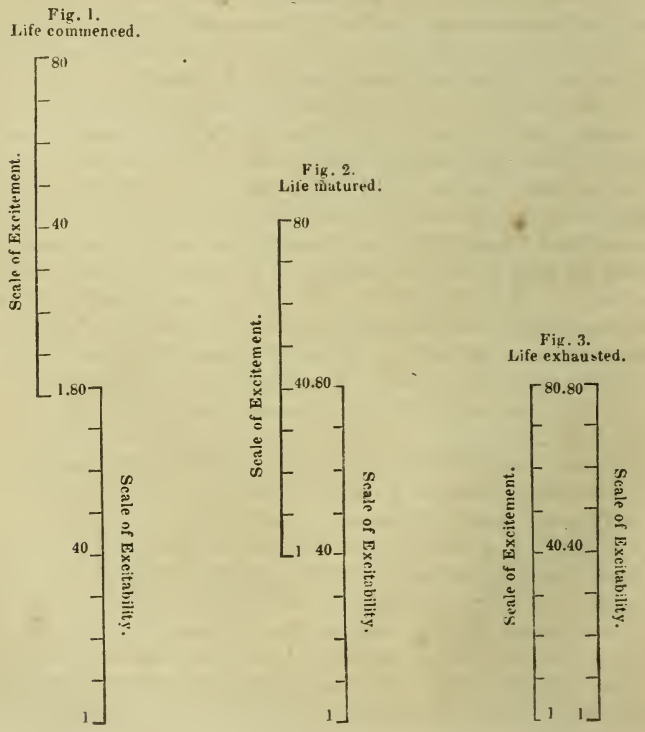
If the fibres are overcharged, it would be imagined that a powerful stimulant must be employed to carry off the redundance; but this is not the case, for the very lowest degree of stimulus acts very powerfully on a large proportion of irritability; it must be therefore used in small quantities at first, and gently increased. Thus, when a child is born it is all excitability, and the first stimulus is obliged to be very weak, as milk, food, &c.; but as it advances in life this property decreases, and stronger stimulants are required, which are produced by growing passions, and stronger diet; and, by the time the object arrives at maturity,

the stimulant powers are equal to the quantity of excitability; that is, the fullest proportion of stimulus is exciting an equal quantity of the excitability, and the powers of life are then at their highest. After this period the order is reversed; for no stronger excitement being produced, and those already employed becoming habitual, lose their influence, and infirmity, debility, loss of appetite, and decay of the passions, are induced; while the property of excitability, nearly exhausted, requires the strongest stimulants to excite it, which not being produced, it ceases to act altogether, and death is the immediate consequence.

As a still further explanation of this system, I will endeavour to describe it in another view, similar to what, I believe, is done by Dr. Brown, in his Elements.

The excitability is supposed to be a stated quantity of a property which every animal must possess necessary to life. This is reduced to a scale of eighty degrees (see *plate* 1, *fig.* 1) No. 80 is life commenced, No. 40 is life matured, and No. 1 is life consumed.

PLATE 1.



The excitement, or stimulus allotted to every living creature, is supposed to be, in the same stated quantity, reduced to a similar scale of the same number of degrees, and necessary to produce life by acting on the excitability. The end No. 1 of the exciting scale being brought on a level with No. 80 of the scale of excitability (as in *plate* 1, *fig.* 1), is an exact representation of the commencement of life. One degree of stimulus, which is the smallest proportion, is just acting on the whole mass of excitability, and producing life, which is the case with every recent living production. It is all irritability, while the pressure of the atmosphere, food, vision, &c. gently stimulate to action : for, as I before observed, when the irritability is great, a large quantity of stimulus would cause instant death ; and every one will allow that the common stimulus required for an adult would instantly destroy an infant.

As you draw the excitement down its antagonal scale, the excitability is decreasing, and a stronger stimulus is required, which is produced in exact proportion by the growing passions, stronger diet, &c. By the time the scale is reduced to No. 40 (as in *fig.* 2), it resembles life at its meridian, and acting in the zenith of all her powers ; for it is when the property and the power are equal that life is at its vigour. This state cannot, however, long continue, as every stimulus becomes weaker by habit, and as the excitability becomes exhausted, it requires a still stronger stimulus ; hence it is, that aged people require a more nutritious diet and more support from cordials than young people.

On declining the scale of excitement, we shall find a melancholy reverse ; for it now acts on the opposite principle, and the property and power of life are now decreasing in the same proportion as they before increased. This must be the natural consequence, for the excitability, exhausting, requires a still stronger stimulus, which nature not affording, a general decay ensues. This defect still increasing, graduates the exciting scale down to No. 1 (as in *fig.* 3). Life is here arrived at her fatal goal. The excitability and stimulus are quite consumed, and the expiring object dies.

But, even in this melancholy view of the progress of life we have considered it in its most favourable point, and in which it is scarcely possible ever to occur. The produce of such a life must have been from a healthy and well-formed source, free from accidents in rearing, and moderately indulging the passions which nature has bestowed. Such a fortunate combination of events must be the lot of few, and the very habits of life in which we are elevated, and the gratifying of any passion, even in moderation, all urge to the destruction of our living principle. What, then, must be the effects of excess ? It is an advance towards

decay, which no after moderation or precaution can repair; for every stimulus is a forced advance on the scale of excitability, and induces one yet stronger, until a premature old age is the result. Thus a person may die of age or decay, as is the case with drunkards, and in hot climates, where the stimulus is excessive, at the age of fifty or sixty years; while in a more moderate one the same effects are not produced till seventy or eighty.

Thus it is with domesticated animals: every deviation from nature is attended with a proportional destruction of one principle or the other, and every one will allow, that an animal formed for activity, when under restraint, irregularly exercised, and art employed to prepare his food, becomes a deviation from nature; hence the many diseases to which the horse is exposed.

If, therefore, the above statement is true, every general disease must arise from these two causes only,—either excess of stimulus destroying or exhausting the excitability of the system, or the stimulus, not being sufficient, inducing an accumulation of excitability, which will, of course, produce a set of diseases of an opposite nature to the former: and every disease of a class, however various may be the forms which it may assume, is cured by a similar treatment, or medicine of the same class, differing more in proportion than in property.

In opposite climates, opposite diseases must predominate: thus in cold climates there is generally a want of stimulus from the absence of heat, and diseases occasioned by excess of excitability will prevail, while, from the excess of heat in the tropics, diseases arising from exhausted irratibility must prevail, also the diseases of the aged must in almost every instance be those of exhaustion, as the excitability with them must, by the natural progress of life, be nearly consumed. In these cases, a stronger stimulus will generally rouse the deadened excitability to an increased action, by which it may be secreted in larger quantities; but the action of the system being once increased, the stimulus must be lessened to something below what the object has been accustomed to, by which the property is allowed to accumulate, while by a continued stimulus it would be exhausted. This is precisely the treatment required in all cases of exhaustion, and in this country I have found that mode to be particularly successful in several cases, even when immediate death was expected. As an example of this kind, I shall state the following case.—The animal was seized with coldness of the extremities, became very dull, and had scarcely any animation left. In two or three hours he was seized with general convulsion, all his joints were strongly contracted, and his jaw nearly locked. At this period scarcely any heat could be felt on any part of the body, although several farriers had been employed from the commencement in rubbing

his extremities with spirit of turpentine, and he had taken two doses of the same spirit, each containing four ounces. Two bolusses had also been given him, each containing two ounces of camphor and opium. When, however, he was reduced to the last stage, I was willing to give a full trial to stimulants; and knowing that nothing but the most powerful ones could affect a system so exhausted, I made the farriers mix half a pint of spirits of turpentine with an equal quantity of boiling water, which was administered, and in a few minutes had the desired effect—a warmth beginning to pervade the body, even to the extremities. The general spasm or convulsion left him, and in a few hours he was perfectly restored. In this particular instance, however, where so much stimulus had been employed, we were obliged to guard against its effects, as soon as returning vital warmth succeeded: this was effected by congee, and an emollient diet. By this disease, many horses are suddenly destroyed in this country; and I would strongly recommend a similar course, though not so violent, whenever the least sign of spasm or convulsion is observed, which, from my own experience, I can assert will be almost always successful.

In hot climates, most of the chronic diseases in the horse (as ulcerated liver) originate from obstruction, and obstruction is generally the result of that debility in the system which is produced by exhaustion. Spasm and diseases with nearly all the variety of symptoms, as internal pain, &c., which we find in this climate, are also induced by exhaustion, and which almost invariably yield to a proper application of excitement.

In diseases of the opposite class, that is, when the natural stimulus has not been sufficient, the excitability of the system accumulates, and becomes morbid, producing debility, languor, and many symptoms which very much resemble the disease of the other class; hence it is that we should be very particular in a few general inquiries as to the age of the subject, the climate he has been exposed to, and the course of life he has pursued, which will give weight to our conclusions.

This class generally prevails in cold climates, where the inhabitants are unacquainted with luxury; also among the young and sedentary. In the whole animal world the same principles exist, and in Europe, and the more northern parts, where diseases of this class generally prevail in the horse. In respect to the symptoms, they are very difficult to describe: diseases in this class seldom or never attack with that immediate fatality which they do in this country, unless we admit inflammations of the lungs and intestines. In all cases where there is an accumulation of excitability, the smallest possible stimulus acts in the most powerful manner, as is explained in infancy, where the irritability is great, the most sparing stimulus is requisite. To explain

the nature of diseases in this class, it will be proper to remark some other general rules relative to the property and power of life.

The excitability is equally diffused over every part of the animal frame, and a connexion exists between every fibre in the body; by which means a powerful excitement applied to one particular part occasions but a temporary exhaustion, as it is soon supplied again from the contiguous fibres. It is thus that a very powerful and continued stimulus to one part may consume the sum total of excitability, as is, perhaps, the case with some poisons; but though this communication exists, a part may suffer disease from temporary exhaustion, by a too frequent repetition of stimulus. This is exemplified after a long and fatiguing march: the joints of the legs will be for some time more exhausted than the rest of the body. One arm, or any member of the body, being long employed, fatigues the whole system, but is itself more fatigued; also, in persons in the habit of drinking to excess, the capacity of the fibres of the stomach for retaining the excitability is so much destroyed, that disease of exhaustion ensues; and, the stomach no longer possessing the power to digest the food, the juices separated from it are crude and unwholesome, and diseases of the stomach and liver, attended with emaciation and atrophy, succeed. The votaries to the softer passions, who indulge to excess, or commence too early, soon hurry themselves into a similar state; and they will be very fortunate if they avoid the deplorable miseries of chronic diseases, and merely make an advance on life, and induce a premature old age, the unavoidable attendant of excess.

In this climate nearly the whole of the diseases to which the horse is subject arises from exhaustion, inducing debility; and obstructions or spasms succeed. In this class I conceive are, the farcy, spasms, and general convulsions, gripes, locked jaw, and the ulcered liver; to which, I believe, I may add, weakness of the loins, and all diseases which produce sudden death without inflammation.

The atmosphere in this climate, particularly during the land winds, must act as a very powerful stimulus over the whole surface of the body, diffusing its influence through the whole system. This must often exhaust the animal in the most rapid manner, and, if it ceases suddenly, such a state of debility ensues as must frequently induce a state of convulsion, &c.

Every animal is subject to daily exhaustion and accumulation. During sleep the sense of vision, and the mind and body being at rest, there is a great diminution of the natural stimuli; consequently the property accumulates, and in the morning the body is much more irritable and susceptible of impressions, inebriety,

&c. than in the evening. During the day the accumulated excitability becomes exhausted by food, vision, passions, mental and bodily exercise, &c.; consequently a person taking great exercise, in either body or mind, meets his couch at night with more grateful feelings than a person of an indolent and inactive disposition.

THE VETERINARIAN, MARCH 1, 1842.

Ne quid falsi dicere audeat, ne quid veri non audeat.—Cicero.

It has often struck us to be a serious omission in the education of the veterinary pupil, that, let him have issued out of what part of society or line of life he may, no opportunity awaits him at College for the acquirement of knowledge of which he may perchance be entirely destitute; or if not quite without, in the possession of too little to fit him either for the due understanding of the medical lectures about to be delivered to him, or for the subsequent practice of that art of which he is about to be instructed in the theory. It is not every man who comes to study veterinary medicine that has had the advantages of a horse infirmary or a farrier's shop, or a dealer's or livery yard. How many pupils have come from situations where horses have been never beheld by them but through glass windows, and whose thoughts never alighted upon animals at all, until they found themselves transported through some caprice of fortune between the walls of a veterinary college! When there, they are expected, all at once, to enter upon the study of the complex structures of which the animal body is constituted, with the exteriors of which they are hardly sufficiently acquainted to recognize the creatures when they see them! It might have been the observing of this defective preparation, and consequent want of foretaste for the art among his pupils, which led the late Professor Coleman to say, that the sons of grooms and farriers made the best veterinary surgeons; and, practically speaking, they generally do, and for this reason, that the others never obtained any "knowledge of horses," save what little they might have gathered among twenty or thirty invalids. How truly absurd to suppose that a person who has emerged from behind a linen-draper's counter, is, by two or three years' study at a veterinary college, to leave school "qualified to practise the veterinary art!" What man conversant himself in horses, would like to trust his horse in such hands? Such a pupil wants to begin with a knowledge of domestic animals in general, in particular of the horse, the dog, the ox, the sheep; a knowledge of their nature, and habits, and uses, in a state of domesticity; of their management and diete-

tics; their ordinary signs of health and of disease; their capabilities, and so forth: all which is best known to the persons engaged in immediate attendance upon them. A pupil may acquire high pretensions as a medical student—may be well read in anatomy, physiology, and pathology, and yet may turn out a very insufficient practitioner. Would the young man of education condescend to make his *debût* as a veterinary pupil in the stable, and step from thence into the farrier's shop, before he attended any medical lectures at all, great indeed would be his subsequent proficiency as a veterinary practitioner. Depend upon it, *this*—and this alone—is the right end to commence at: it is ridiculous to begin to tell a man that the blood is composed of crassamentum and serum, and so forth, who is such a novice in a stable or farm-yard, as to know nothing about the appearance and management and common attributes of the animals inhabiting it. This is the reason why medical men are in general so unfitted for veterinary practice: they knew enough of anatomy and physiology, and pathology, generally, to direct their course, but they know nothing about the new patients they are called to exercise their art upon; and the consequence is, that they either do too much or too little, or, more commonly, are found doing that which amounts to nothing at all.

The same reasoning, in a measure, applies even in the surgeon's own practice. Unless he inform himself of the habits of life, the temperament, and the constitution of his patient, he cannot be said to be practising his profession with those aids which nature offers him, and art requires of him. It is a great mistake to imagine that every requisite to the practice of medicine is to be learnt at medical schools. That man, in any sphere of practice, will always turn out the most capable—*ergo*, generally the most successful—whose attainments are of that general character that makes his patients thoroughly known to him, under whatever circumstances they may present themselves for treatment. What an excellent physician Shakspeare would have made! How contemptibly he looked upon that art which could not

> "Minister to a mind diseas'd."

How worthless he deemed it, learn from his own words:—

> "Throw physic to the dogs—I'll none of it!"

An useful lesson might our doctors of the present day derive from this play of our noble bard's: might they, in the refinement of their art, essay to

> "Raze out the written troubles of the brain;
> And, with some sweet oblivious antidote,
> Cleanse the stuff'd bosom of that perilous stuff
> Which weighs upon the heart?"

P.

The health of Professor Sewell is so far from being re-established, that we understand he is about to retire for a few weeks into the country to try the salutary effect of change of air. We cordially wish that his object may be attained to its full extent.

In the meantime, in addition to his lectures on the anatomy and physiology of the horse, Professor Spooner has consented, as long as may be necessary, to fulfil the duties of the pathological chair. In the name of the pupils and the profession we cordially thank him. He will have work enough to do; but he will bring with him a heart devoted to the improvement and onward progress of veterinary science.

As to the instruction of the pupil in the diseases of cattle and sheep, and other domesticated animals, the Council of the Agricultural Society of England is *beginning* to be aware of the importance of this branch of veterinary education; and, at their last monthly meeting a lengthened discussion took place, as to the nature and number of the lectures delivered to the pupils in the ordinary routine of instruction at the College. This was followed by a resolution that "the grant of £200 be continued to the Veterinary College; and that a report of the proceedings of the College, with reference to the number of cattle-lectures and demonstrations, and also the number of persons receiving certificates with regard to the study of the diseases of cattle—this last portion of the sentence was intended, but not expressed—be annually submitted to the Council."

This is a first and a very important step. Lectures are to be delivered at the Veterinary College on the diseases of all domesticated animals. If they are delivered at all, they must be efficient ones. They must extend to all the diseases of all the animals, Cattle, Sheep, Swine, Dogs, and The feathered biped; and this must occupy not five, or seven, or a limited number of lectures, but the sole and undivided attention of a Professor selected expressly for this purpose. On this point we appeal to the deep feeling of the whole profession. We challenge contradiction. Every thing short of this will fail to accomplish the wishes of the agriculturist or the practitioner.

We will take a rapid glance at the list of diseases with which the practitioner of cattle medicine will have to contend:—Hydatids in the brain, or water in the head—apoplexy—inflammation of the brain—locked jaw—epilepsy—palsy—rheumatism—cataract—gutta serena—cancer—madness—affections of the tongue or mouth—diseases of the nasal passages—inflammation—inflammation of the heart—fever—inflammatory fever—quarter-ill—black quarter—typhus fever—varicose veins—common catarrh—epidemic catarrh—malignant epidemic—murrain—bronchitis—inflammation of the lungs—pleurisy—consumption—choaking

—hoove—poisons — fardel-bound—inflammation of the liver—jaundice—inflammation of the bowels—wood-evil—moor ill—diarrhœa—dysentery — colic — strangulation—introsusception—worms—dropsy—rupture—red-water—black-water — inflammation of the kidneys—inflammation of the bladder—rupture of ditto—swellings of the joints—ulcers of the joints—opened joints—sprains—diseases of the feet—foul in the feet — hidebound—mange—leprosy, and all the long list of diseases of the youngster.

With all of these the veterinary surgeon will occasionally have to grapple. He must recognize them in an instant—he must be conscious of their changes and connexions—he must be aware of the proper mode of treatment, so essentially different from that of the horse—the medicines so different—so contrary in their effects; and all this with regard to one class of patients, while others of numerous kinds are claiming his attention and his care.

Are, in good truth, all these to be dispatched in five, or seven, or seventy lectures? May these lectures be delivered by fits and starts? Will slight glances at them, when treating of other subjects, suffice? It is ridiculous for a moment to think so. There ought to be forthwith a distinct lecturer on the diseases of the animals which constitute so great a portion of the farmer's care and wealth.

What time so proper as the present? The head-professor being for awhile removed, the hands of the assistant-professor are more than full; and this most important branch of veterinary instruction is altogether lost to the pupil, with the exception, indeed, of what may be gleaned at the dairy at Islington, and which includes not, and never can include, a twentieth part of what he ought to know of the long list of diseases just given. *Is there no one in the neighbourhood of the metropolis or elsewhere who might be selected to fill this chasm, so long and so injuriously unoccupied? Is the whole of this session to be utterly thrown away?*

Once more we appeal to the members of our own profession—once more we appeal to the Agricultural Society, and to agriculturists every where. Give to the pupil an opportunity of acquiring that information so useful to him and to you. A lengthened course of instruction, and by a competent teacher, will alone accomplish this. The horse owes much to the Veterinary College, and the knowledge of his diseases, and their mode of treatment, is now daily improving. So let it be with cattle. There is more at stake than with the horse; and it will depend on you, whether an improvement in the treatment of the diseases under which they labour shall be rapid and effectual.

Y.

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LECTURES ON HORSES.

By WILLIAM PERCIVALL, *M.R.C.S., Veterinary Surgeon First Life Guards.*

LECTURE III.

THE BODY.

"In making choice of a horse you must take care that he has a good body, and is full in the flanks; for it is not one of the best signs when the last of the short ribs is at a considerable distance from the haunch bone, or when the ribs are too much straightened in their compass; as they ought to rise equal with the haunch bone, or nearly so." * * * "A narrow-chested horse can never have a good body, nor breathe well, and such horses as have straight ribs, and are at the same time great feeders, will soon distend their bellies to such a degree, that it will be impossible for their entrails to be contained within their ribs, so they will press down, and form what is commonly called 'a cow's belly.' These horses are difficult to be saddled, but have generally good backs; and though their croups are not so beautiful, being for the most part pointed, yet in recompence for that deficiency, they have generally excellent reins."—*Farrier's Dictionary.*

FOR convenience of description, the entire animal machine is divided into *body, neck, head,* and *limbs* or *extremities.*

THE BODY, in the skeleton, appears formed by the *spine,* the *ribs,* and the *breast-bone:* these together constitute an inclosure which anatomists call the *chest.* But in the live or undissected animal we have superadded to this, another inclosure, known as the *belly;* which, from the circumstance of its walls being composed of *soft parts*—flesh and skin—leaves no trace of its existence in the skeleton. Let us consider, first,

The Chest.

Of this inclosure the spine forms the roof, the ribs its sides, and the breast-bone its floor or bottom: all which parts are more or less excavated or rendered concave in their shape internally, in order that its cavity might be as extensive in every direction as the nature of the fabric would allow. The smooth bodies of the vertebræ are the parts presented to the interior of the chest, from which proceed, on either side, the ribs, describing in their course downward so many elliptical arches abutting upon the breast-bone. The foremost arches are short and straightened; the middle, large and circular; the hindermost ones diminishing in length, and becoming straight again. Altogether, the chest presents in the skeleton a conical figure: small and contracted in front; broad, deep, and capacious in the middle and posterior regions.

The connexion between the ribs and the bones of the spine is by means of small joints which admit of a limited hinge-like motion between them; but to the breast-bone the ribs are attached by distinct *cartilages*—long pieces of gristle, so formed as to appear like a continuation of the ribs themselves, and virtually, indeed, to answer in some respects a like purpose; for they complete the inclosure inferiorly, and to the contained parts offer, to the extent they reach, as effectual protection as the ribs themselves. But they serve purposes bones could not answer. They enable the ribs to enjoy that motion, outwardly, which their joints with the vertebræ intended they should have, for the purposes of respiration; they also enable the ribs to accommodate themselves, by partial turns, twists, and inclinations, to the various movements of the animal: further, by their own elasticity, they endow the ribs with that power of yielding, that high degree of resiliency, which proves the means of their resisting fracture in hundreds of instances where, without the cartilages, fracture must have ensued. The blows, the pressure, the squeezes, the hard rubs, the ribs get, would over and over again break them to shatters were it not for their cartilages. How rarely do we hear of a horse getting his ribs broken, even from the heaviest falls, from the hardest blows, from the greatest weight imposed upon them! when any shock of this description is given, we hear a sudden burst of air from the chest, occasioning momentary exhaustion; but we rarely indeed find it productive of fracture of the ribs. Far other and fatal must have been the consequences had the entire rib been one solid piece of bone: to say nothing about the difficulty any act of exertion must necessarily have occasioned in the breathing, any violent blow or fall, or great weight jolted upon the back, must have

broken the ribs into pieces. On the other hand, had the ribs been composed from end to end of cartilage only, the form of the arch could not have been sustained; neither could the effects of blows, or superimposed weight have been resisted; but, sooner or later, the arches must have become bent inwards, and so encroached upon the cavity of the chest as to have compressed the organs of respiration and circulation to that degree that could not but have ended in suffocation and death of the animal. It was only the judicious and well-arranged combination of bone and gristle in the construction of the chest that could answer the ends an all-wise Providence had in view.

The chest being the repository for the organs of respiration and circulation—the *lungs* and *heart*—the grand point for the consideration of the horseman, in judging of a horse in respect to it, is, its form or its *capacity*, the one being inferred from the other. It is natural to suppose that the largest lungs and heart inhabit the largest chests, and, *cæteris paribus*, that horses possessing them must also enjoy advantage in wind, as well as such other advantages as are found to accrue from an ample respiration and circulation: upon this, in fact, principally depend his powers of exertion and endurance, as also his constitutional disposition to make and maintain condition. Now, capacity of chest will be derived from breadth, depth, and length of the cavity.

Breadth of Chest is the result of circularity in the arches of the ribs: hence a broad and a circular chest amount to the same thing, or have only this difference, that, the breadth not being always in the part where it ought to be, may be present without or with only a part of circularity. For example, a horse that has a circular chest will have thick or strong shoulders, and a broad back and breast; but in another, the ribs may curve well out from the spine, giving breadth of back and thick shoulders, but afterwards turn suddenly inward and proceed to the brisket with hardly any further curvature; the result of which is that such a formed chest is defective, not only in depth, but in width likewise, except just at the superior part. When the ribs proceed from the spine to the breast-bone with very little arch or curvature outwards, the animal becomes narrow-chested, or, as it is pertinently expressed, *flat-sided*. In a well-formed chest the arches the ribs form from one abutment to the other are pretty regularly elliptical, and at their inferior ends are lengthened out so as to give as much *depth* to the cavity as is compatible with the general fabric: the curvatures of the ribs are conspicuous behind the elbows, and the rider feels he has, when mounted, a good clutch between his legs. The broad or circular chest being that which affords the most internal space—

most room for the operations of the contained organs, out of which result, wind, and strength, and stamina—it has ever been throughout the animal world considered a point of the greatest desideration. We see it associated with good wind and bodily strength in numerous quadrupeds, in fowls, in man even: we have only to contrast the circular chest of the bull-dog with the narrow one of the greyhound; that of the goose with the turkey's; and one man in this respect with another; and we shall have striking evidence of a fact of which it would be easy to multiply examples *ad infinitum.* It is upon this same principle of conformation that farmers, and graziers, and cattle dealers, proceed in their selection and judgment of stock—not for purposes of wind and strength, so much as for their known constitutional powers to grow fat, their disposition to feed kindly, and to turn out such in the hands of the butcher as others, differently formed, with double and treble the quantity of food, would never become: indeed, form of chest has grown into a consideration of the first importance with the agriculturist, and by him has been turned to a most useful and profitable account. And to the horseman, is it no mean advantage for him to possess a horse with good stamina—strong wind and constitution—one that will do double the work of another, and do that work upon comparatively little or indifferent provender? But, in his case, joined with this consideration, is another, one of equal or more import still, and that is, *action.* Can the horse with the circular chest perform—make use of his limbs—as well as one with a chest differently formed? Can he go as free and as fast? We must answer, No! The breadth of his chest will be disadvantageous to the action of his fore limbs; and, therefore, we must be content to make a sacrifice in one respect that we may be gainers in another. Nature, however, even in this apparent dilemma, has made a provision, by giving

Depth to the Chest: a formation which greatly compensates for deficiency in breadth, while it enables the animal to use his fore limbs with all the freedom and effect required. Be sure to look for plenty of *depth in the chest:* it is a most important point, where we cannot have breadth or circularity, and where speed or action is demanded. Nowhere in nature is the design of this or that form of chest more strikingly and beautifully shewn than in the different breeds of horses. The cart-horse is admired for his "fine round barrel," and his "broad, full, fleshy bosom:" the racer, for his "great depth of chest;" without that breadth and consequent seposition of the shoulders, which would diminish his facility of progression. In both cases—as in the bull-dog and greyhound—there is ample girth of chest, and, therefore, space enough

for the play of the lungs and heart, though the circular admeasurement is obtained in different ways; the one animal being seldom required to go out of a footpace, the other being intended to trot, to gallop, to race. Observe how awkwardly and clumsily the cart-horse gallops, or even trots; and with what agility the thoroughbred glides along in his canter or speed! Only exchange their chests, however, and mark what would happen! The result is sufficiently shewn in what we see in cart-horses with deep and narrow chests, and in circular-chested race-horses: the one is "all abroad" in his gallop, and cannot go "any pace at all;" the other has not the substance about his shoulders and neck a horse for heavy and laborious draught should possess.

LENGTH OF CHEST, in general, is not a desirable point in a horse, because it is commonly combined with shortness of rib, and consequent deficiency in the vertical diameter of the cavity, or else with flat-sidedness and narrowness of the cavity: where, however, we find the ribs of their requisite length and proper span, and where the interval between the last rib and the hip-bone is but short—which by horse people is called being "ribbed home," or "well ribbed up," then the length of chest is what all judges in horses will not fail to admire. The space between the last rib and the hip or haunch-bone forms the part denominated *the flank*. When this is lengthy, and the flank in consequence loose or tucked up, the horse is said to be loose or slack in his loins; though, in point of fact, it is the *flank* and not the loin, which is "loose" or "slack:" at the same time be it observed, it is the circumstance of the loin being commonly defective in such formations that has led to the phraseology. Depth, and length, and breadth of chest, with other structures in accordance, will insure enduring speed, with wind and bottom in its possessor. One of the most remarkable instances I ever saw of this perfection of chest was in the famous old mare, *Fleurs-de-Lis*, the property of George the Fourth: she had one of the deepest chests and finest shoulders, perhaps, ever seen; and for her qualifications and performances I need hardly refer any sporting man of the present day to the Records of Racing.

Before quitting this part of my subject, I would say a word or two concerning what is well understood among horse-men by the phrase "girth" of a horse, i. e. what he measures round in that part of his body usually encircled by the girths. So deceptive is this measure apt to be, that even the best judges are not unfrequently a good deal out in their opinion about the dimensions of horses' chests: I have often myself been surprised to find one horse measuring more than another whom I had regarded as a much larger chested horse. It is, therefore, in all cases, where any doubt

arises, a good plan to refer to the rollers or girths, which afford never-failing tests of the true circumferent admeasurement: we may always learn from the groom that such a horse buckles up two or three holes tighter in his roller than such another; or that the girths which fitted the former are altogether too short or too long for the present occupier of his stall.

THE BREAST, as the front part of the chest is called—"the bosom," as it is wrongly and absurdly named by some—is a point worth our attention. It should possess breadth and fulness; the breast-bone should be prominent, and the sides of it well filled in with plumpness; the action of the fore limbs, as we shall see by and by, a good deal depending upon the formation and substance of the breast. When the breast is wide, the fore legs will be far apart, as we see instanced in the cart-horse and bull-dog; and, in consequence of the arches of the ribs being circular and projecting, the elbows are very apt to be turned outwards: a position of limb—to say nothing about its seposition from its fellow—very unfavourable for progression. On the other hand, when the breast is narrow, the fore limbs are approximated—seem, to use a dealer's expression, "as though they both issued out of one hole." This conformation favours speed, but on several accounts is highly objectionable. When the breast is narrow, the chest is so likewise; the animal is flat-sided; and his fore legs are placed so near together that, in action, they are continually striking each other, occasioning sores or bumps upon the fetlocks, speedy-cut, and other annoyances; not to mention the weedy make and want of stamina such a horse will evince. Dealers in cart-horses are very particular in their search after stock "with good," i. e. full and ample, breasts; they well know the value of such a point, and the dependence to be placed upon it in indicating a good or bad worker. With nags and others we are not in the habit, I should say, of paying sufficient attention to it. Although we may not require—had rather not have—a *broad* chest, yet cannot the breast be too fleshy or prominent. A lean-breasted horse cannot fail of being weak in his fore limbs, if he be not in his hind too. When I speak of a prominent breast, however, I do not mean one that projects so much forward that the fore legs appear to recede from it underneath the body, making the animal what is called "stand over;" for this shews faulty position of the fore limbs, and a sort of unnatural lengthiness about the fore parts of the breast, which cannot but prove disadvantageous in progression. I shall revert to this point when I come to speak of the position of the fore limbs.

THE BELLY.

This being a part which has no existence in the skeleton, would hardly, with propriety, be considered by us in this place, were it not intimately associated in its formation with the chest, and so dependent upon it for its form and size, that we seem called upon to transgress the rule of procedure we had set ourselves at the beginning.

The chest and belly, in inseparable union, constitute the *body*. Exteriorly, we can with difficulty determine where one begins and the other ends; but when we come to dissect the body, we find that, interiorly, their cavities are altogether separate, being divided by a broad and complete partition of fleshy substance. The size or bulk of the belly, for the most part, is regulated by the dimensions and form of the chest; though, in many instances, one is large, while the other is comparatively small. In a horse that is "ribbed up," or "ribbed home," the belly receives so much more support from the posterior ribs, than when the interval between the last rib and hip-bone is long, that, with the chest, it appears, under all circumstances, to preserve a sort of indivisible union and never-varying proportion. But such horses as are short-chested, or long or loose loined, and as are, according to the text we have prefixed, "at the same time great feeders, will soon distend their bellies to such a degree that it will be impossible for their entrails to be contained within their ribs; so they will press down, and form what is called 'a cow's belly.'" Upon such a horse, in consequence of the large circumferent measure posteriorly, and the diminished size of the girth round the brisket, the saddle is frequently riding forwards and the girths becoming loose; the only stay to the saddle being a crouper or girthing tight enough round the middle of the belly to form a sort of indentation in that part, neither of which expedients is very pleasant to the horse or his rider. Opposed to this kind of formation of body is that in which, from want of length, or rather convexity, in the middle ribs, the circumferent measure decreases all the way from the place of girthing to the flanks: the consequence of which is, that the horse is continually slipping his roller and running through his clothes. It is always a sign of good make when a horse "carries his saddle well;" it shews that his back is properly formed, and that he is not encumbered with "a cow's belly." It also looks well when the roller keeps its place, at least when the circumstance is not solely referrible to size or distention of belly.

A LIGHT-CARCASSED, or *heron-gutted horse,* is commonly weak in constitution and defective in physical powers, and altogether

unfit for every purpose where strength and endurance, or hard work, is required. Any extra exertion will take him off his feed; and, in addition, he is very likely to evince a timid, nervous, or fidgetty temper. A horse of this description may answer for the park or promenade, and be, with a rider who is not disconcerted or annoyed by his temper, even a favourite, though for real service or work he is next to valueless. We should, however, take care to make a distinction between a light-carcassed horse whose chest is deep, and so far good, and one that has neither chest nor belly to boast of; but, "without middle piece," appears all legs. The former may be a good feeder, and, should he possess this property, will perhaps, in spite of his lightness of belly, turn out to possess some stamina; the latter never can be worth any thing. Indeed, when there is good depth of chest, as regards speed in galloping—for racing—this greyhound form of body appears advantageous, not only from the circumstance of the animal having less burthen to carry, but because, with the length and looseness of loin with which it is commonly associated, it adds to the facility and extent of the stride, allowing of the fuller accomplishment of that projection of the hind legs which tells so much in galloping progression. On the other hand, a horse that is wanted not more for speed than endurance, for heavy and hard hunting, or for any purpose of strength or endurance, must not possess this receding carcass and looseness of loin: he must be well ribbed up, and short in his flanks, and let down in his belly; must, to use the dealer's well-known phrases, possess "a good bread-basket," and look "as if he always carried his dinner with him." A horse so made, indeed, can hardly ever appear tucked up: the muscles forming the flanks are too short to contract much, and the ribs are too near the hips to admit of much compression of the bowels. After a long and fatiguing day with hounds, a horse with loose flanks and loins will appear as though he were "cut in two," as the saying goes: whereas, a horse well ribbed up, will hardly, after the same, shew any signs of work. What is understood by the phrase "constitution," under which is comprehended the power of standing work and of "coming again," or performing a great deal in a given time, cannot exist in any horse devoid or defective of middle piece.

A SUMMARY OF THE TRANSACTIONS AT THE ROYAL VETERINARY SCHOOL AT LYONS DURING THE SCHOLASTIC YEAR 1840-41.

[Continued from page 134.]

Puncture of the Carotid.—The substitution of the lancet for the fleam in bleeding from the jugular vein of the horse has twice given us the opportunity of studying the consequences of puncture of the carotid, and convinced us of the inutility of the ligature to remedy that accident.

On the 24th of May, 1841, a mule of the usual height, and fifteen years old, was brought to lose a little blood in the way of precaution. At the moment of the puncture with the lancet, on the left side of the neck, the animal gave a sudden start, and the artery alone was opened. A stream of blood immediately began to escape in interrupted jets, and in a very short time the vessel was filled. It was, however, presently stopped by means of three pins and the figure of 8 suture. Some minutes afterwards, and in despite of repeated lotions with cold water, a tumour began to appear, and rapidly increased, until it reached the lower part of the neck. A bandage was applied with a strong compress, and acidulated lotions, the animal being placed under a restricted diet. The swelling soon evidently seemed to diminish. On the second day a blister was applied over the point of the puncture, and on the sixth day the animal returned to his usual work.

The second case was less serious, and only required the rest that would be given to him after an ordinary bleeding. The blood, of a vermilion colour, escaped in an interrupted stream. Compression on the part, and the application of a suture, were had recourse to, as in the former case. A tumour was observed likewise, as large as a hen's egg, but which disappeared on the employment of refrigerants.

On some horses, kept for purposes of experiment, we have endeavoured to produce the same results. In a grey carriage horse, eight years old, a puncture was made in the carotid one-third of the way down the neck. Before the application of the suture, eight pounds of blood were permitted to escape. Abandoned to himself, the horse on the following day exhibited none of the consecutive symptoms of arteriotomy.

In another horse the puncture of the artery was made obliquely across the vessel. A small quantity of blood only escaped, but there was extravasation into the cellular tissue, and the instantaneous formation of a large tumour, which yielded on compression.

In two other cases, a ligature of the carotid was successfully practised.

Lamenesses of the scapulo-humeral and coxo-femoral articulations.—We have in numerous cases employed certain chemical caustics for the cure of lameness in these joints : indeed, whenever our diagnosis has been well established, the result has been satisfactory even in cases of the longest standing. Fifty-three horses have in our infirmary been submitted to this mode of treatment—thirty-five for lameness in the shoulder, and eighteen for a similar complaint in the articulation of the os femoris with the pelvis. All have been cured with the exception of three ; two of which had been lame a long time, and in the third the case was far from being plain.

Either the bichloride of mercury or arsenious acid may be employed, but not with equal advantage. We give the decided preference to the former. It is with some degree of fear, perhaps, that we first determine to have recourse to so violent a caustic as corrosive sublimate, but we soon become assured of its beneficial effect. A small piece, of the weight of two grains, is introduced under the skin, at the point of the articulation, and suffered to remain there eight and forty hours ; and during which, neither the swelling that may take place, nor the absorption of the salt, nor the extent of the wound, should cause any alarm. The tumour that arises may occasionally be large, but it will not require any application—not even emollients. It may cause pain and stiffness in walking, but it produces no general or constitutional symptoms.

In no case have we observed any symptom of empoisonment. Its manner of action seems to render this impossible ; for by influence of one kind it may produce mortification of the cellular tissue, and thus render it impossible for the absorbent vessels to lay hold of it, while by another chemical action it becomes transformed into a protochloruret, insoluble and harmless. The process of cicatrization is rapidly completed, but there may remain a small spot denuded of hair.

One inconvenience occasionally happens,—the purulent matter insinuates itself under the integument, and there is a temporary separation of the skin from the parts beneath. The insertion of a tent or seton into the most dependent parts, will, however, speedily remedy this inconvenience.

Some empirics employ the sulphate of copper in these diseases of the joints, but with far less effect than the mercury. The arsenious acid is still more objectionable. It uniformly produces considerably more swelling than the mercury, and often a far greater loss of integument : it has also occasionally produced poisonous effects.

Neurotomy.—We have practised this operation on a mare of the English breed, ten years old, and whose fore-feet were contracted. The division of the posterior nerves of the left fore-foot was made with an interval of eight days between each side. It was the left fore-foot alone in which lameness appeared. That lameness immediately disappeared, to shew itself, two months afterwards, in the right-foot. The operation was now resorted to on the right side. Six months afterwards, the perfect effect of the second operation remained. Both feet were sound.

Castration.—During the spring and summer we have had numerous cases of castration. In fifteen subjects the removal of the testicles in the uncovered way has been performed without any accident. The clams, armed with corrosive sublimate and lard, produced mortification of the vessels included in their pressure in two days, washing with cold water being employed, with a little gentle exercise, but no bleeding. The scrotum was rarely or very slightly swelled.

Pathological Anatomy.—In two horses an enormous tuberculous mass, situated in the abdomen, was connected not only with the neighbouring ganglia of the mesenteric arteries, and also involved the kidneys, but forced itself into the groin, and reached to the testicles. Its interior offered numerous soft projections, resembling an encephaloid mass.

In a horse—a roarer—there existed hypertrophy and ossification of the arytenoid cartilages. The operation of tracheotomy being resorted to, the roaring ceased.

A salivary calculus was taken from the left parotid canal of an entire ass. It was of a grey colour, oblong, and rounded at the extremities, with a surface slightly embossed, glossy and granulous in some parts. It weighed 1028 grains, being an enormous calculus for so small an animal.

Some remarkable concretions of the plexus choroides were furnished by a horse that was at first attacked with staggers, to which paralysis succeeded. Two concretions, of the size of a small egg, filled the lateral ventricles. That on the left side was the largest. It was more than two inches and a half long, one and a half broad, and one in thickness. The corpus callosum and septum lucidum were forced towards the left in the posterior part, and adhered in some places to the walls of the ventricle. During the latter part of the life of the animal its eyes were motionless, and there was also palsy of the buccinator muscles.

A Spanish horse, seven years old, died of inflammation of the stomach and the brain—*gastro-encéphalite*—after an illness of twenty days. The examination after death discovered some lesions that were not expected. During the life of the animal,

violent inflammation of the rectum had existed, in consequence of the administration of thirty drops of the croton oil in two days, in the form of injection. A week, however, before his death all these complicated symptoms had disappeared.

For the first time—twenty-four hours before he died—he voided by the urinary canal four ounces of a white purulent matter.

On examining him after death, we found in the pelvic cavity, behind the peritoneum, a large abscess containing a similar fluid. This abscess seemed to have been developed consecutively to inflammation of the rectum. The lateral ventricles of the brain were filled with a limpid serosity. The plexus choroides were double their natural size, and contained several granulations.

M. Lefort has sent some observations on the supposed poisonous properties of beech-mast. According to him, five horses had died with all the symptoms of poison. This was denied by other veterinary surgeons. It was determined that the actual property of the mast should be put to the test. Four horses and a mare were subjected to experiment. The horse ate it without any apparent dislike, mingled with barley-meal. The others fasted two days before they would touch it. When they were at length induced to eat it, they took as much as fourteen pounds of it in the course of three days without any apparent injury, except a greater degree of thirst than usual, and some acceleration of pulse.

M. Laborde has sent an account of a horse that died two hours after an attack of colic. The abdominal cavity presented a great quantity of fæcal matter, and also a calculus, as large as a fist, loose in the cavity. It was irregular, and there were several distinct cavities in it. Its weight was more than a pound and a quarter. After having traced its course through the intestinal canal to the very origin of the rectum, the calculus had perforated the colon at the extremity of its floating portion, and its fall into the peritoneal cavity had been the cause of death, when it had only a small distance farther to travel in order to escape by the natural passage.

Rec. de Med. Vet., Dec. **1841.**

REMARKS ON A CASE OF ENTERITIS IN A MARE.

By Mr. J. Dawber, *V.S., Liverpool.*

As a relation of the following particulars, connected with a case which I lately attended, may not be uninteresting to the members of the veterinary profession, I beg to submit them for publication in your useful Journal.

On Saturday, February 19th, 1842, I was requested to attend a mare, said to be seriously ill, belonging to Mr. Rimmer, farmer, of West Derby. When I arrived, about one o'clock, P.M., I found the animal apparently in great pain, trembling, and breathing short and quick, with a pulse much accelerated and weak. Upon inquiry into the history of the case, I was informed that, during the afternoon of the preceding day, the mare being suddenly attacked, and had began to kick and roll about in her stall. From the supposition that she was affected with gripes, the owner, of his own accord, had administered an antispasmodic draught, from which great relief was obtained. The most urgent symptoms having then disappeared, she commenced feeding, and shortly afterwards appeared to be perfectly convalescent.

In this state she continued until the following morning, when the symptoms already described again appeared. Another antispasmodic dose was consequently given, and the abstraction of blood effected to the amount of six or eight quarts. After these means had been adopted, the violent symptoms—rolling, &c.—subsided, and, from what I could learn, she became much easier; but, nevertheless, it was obvious that she was at this time suffering intense pain.

I requested that she should be taken out of the stable across the farm-yard, and there placed in a kind of loose box which I had selected for her. She appeared somewhat reluctant to move, and used her hind legs in a straggling manner: this, however, I attributed to a frequent desire to stand still in order that she might be better enabled to void her fæces, the discharge of which she frequently attempted, but without success. These efforts seemed to increase her pain, and aggravated all the symptoms. I was now told that she had only dunged once since the day before, and that the excrements which were voided on this occasion, and which were shewn to me, were small in quantity, hard, and covered with inspissated mucus.

From the history of the case and nature of the prevailing symptoms, I felt myself justified in concluding that the bowels were the seat of the disease, and that in this case the obstinate constipation which evinced itself was a cause rather than a consequence of the existing inflammation. The treatment I adopted consisted of oleaginous purgatives, combined with a sedative and the solution of aloes. In order to assist the operation of these medicines, enemata were ordered every two hours until the bowels were freely acted upon. I also desired that the warmth of the surface of the body generally should be maintained by means of whisping, hand-rubbing, clothing, &c., and that little food should be given, provided she felt disposed to feed. Should the symptoms, however,

become more urgent, I requested that more blood should be subtracted, and a draught be given composed of sol. aloes ʒiij, ol. lin. Oj, pulv. opii ʒjss.

On Sunday morning, Feb. 20th, I again visited my patient. I found her rather worse than on the preceding day. Her bowels had not been opened, nor was there any prospect of their being so. Her breathing was still short and hurried—the pulse 60, and weak—the legs and ears warm: she did not tremble quite so much as yesterday, but she frequently endeavoured to strike her belly with her hind legs.

I learned that, about eleven o'clock on the previous evening, the owner, in order to encourage, as he said, the physic to operate, had been exercising her for some considerable time, during which she made many fruitless efforts to dung.

About two o'clock on the following morning (Sunday) she began to be more restless, to breathe very laboriously, and, on the whole, to appear much worse. In short, it was the opinion of those present that she was about to die.

The owner having abstracted more blood, and administered the medicine as directed, she again became easier, and continued so until the time I saw her, which was about eleven o'clock, A.M.

Immediately on my arrival I gave her a dose of the watery solution of opium, which speedily afterwards afforded much relief. I then caused the mare to be turned round in the box, when the bystanders expressed their opinion that she appeared much improved. Her breathing became perfectly tranquil; she drank a few quarts of lukewarm water, and commenced eating a little hay.

I informed my employer that, although there was no decided improvement as yet, I had every reason to prognosticate that the mare would eventually do well. A draught consisting of sol. aloe. and linseed oil was ordered to be given in the evening, providing the bowels should not be freely opened.

On Monday morning I paid another visit to my patient, and was much disappointed in finding that her bowels had not been operated upon.

According to the opinion of those about her, no change whatever seemed to have taken place; and she certainly appeared to me to be in the same state as when I left her the day before. At this period, however, the owner of the mare made his appearance, and said, that a person had told him that if she were back-raked she would get well immediately, as some one had, by this operation, cured a mare affected in the same way. Two or three of the owner's sons had, accordingly, been sent off into various parts of the neighbourhood in search of a certain individual, who, accord-

ing to report, by treating the mare as just described, would restore her to a healthy condition: but while I remained on the spot they returned without having found him.

Perceiving, however, that my employer was growing impatient, and that his great credulity—the offspring of ignorance and the parent of folly—induced him to confide in every ridiculous suggestion offered by the most perfectly uninitiated and worthless pretenders, I remarked to the owner that he must have a little patience; for it was by no means necessary to attempt the removal of the fæces with the hand; and, to convince him of the truth of this, I took off my coat and examined the rectum. The result of the examination proved the correctness of what I had asserted.

I then asked, "Are you satisfied on this point?" adding that, if any fæces had been lodged in the rectum, some portion of it, at least, must have been evacuated before, even by means of the clysters that had been used from time to time.

I repeatedly desired him to have patience, and, just before my departure, I requested that I might be informed, early on next morning, how the mare was getting on, and stated that it would not be advisable to repeat the purgative medicine, as the appearances led me to suppose that the bowels would be shortly moved. These were, the grumbling noise produced by the bowels, and the pain coming on at intervals, instead of being continued.

Instead, however, of receiving the anticipated intelligence, a note, of which the following is a verbatim copy, arrived:—

"Mr. Dawber—My neighbour Hewit called on me last night, and wished to look at the mare. He said the pain lay all in the chest. He took off the fore shoes, and put the feet in bran poultices. He condemns the clystering; he says it drives the dung back: so, of course, I shall try him, and you need not come till I send for you.—P. Rimmer."

In consequence of being discharged I heard nothing of the mare until Saturday, February 26th, when Mr. Rimmer called at my house, and said he wished to have a little private conversation with me. "Well," replied I, "what is it you desire to say?" He answered something to the following effect: "I have called to inform you that my mare is dead, and that I attribute the loss of her to your being ignorant of the seat of her disease. The affection was all in her feet, and to such an extent that I was compelled yesterday afternoon to have her destroyed. We examined her; many of my neighbours were present, and talking very much to your discredit. We could see nothing the matter with the bowels, but her lungs and feet were both diseased." I then made the following answer: "Sir, I cannot but feel very sorry that you have lost your mare, and I am aware that the loss, to you, is

great—but I cannot help it. You have been duped and led away by a man whose object, even at the expense of your mare's life, was to extract money from you. He has attained his ends: but the result is, that, owing to his craft and your folly, you have lost your mare. Had you left her under my care, I am still convinced, that, notwithstanding the transfer of inflammation from her bowels to her feet, she would ultimately have been restored. But to conclude the matter, let me tell you, that if you are persuaded that I have been ignorant, and that you have suffered by my ignorance, all you have to do is to prove it. You have the remedy in your own hands."

In a few days after this I met a son of Mr. R., who communicated to me information to the following effect:—"On Monday night, Hewit called, and requested my father to let him look at his mare. He objected however to do so, and said, that Mr. Dawber had been to see her that day, and had said that appearances led him shortly to expect a change for the better. But he afterwards added, "You can do no harm by looking at her," and took him to see her. As soon as Hewit saw her, he exclaimed, "Her pain is all in her chest, and do, for goodness sake, take off her shoes, and put her feet in bran poultices to draw down the inflammation. Mr. Dawber is doing very wrong by giving her clysters; they force the dung back, and thus her bowels will never be opened. I could purge her in ten hours, and cure her for you directly." "My father," said this young man, "believed what he said; placed the mare under his care, and sent you word that you need not come any more to see her." The shoes were then taken off, and her feet put into bran poultices; a rowel was inserted in the breast, and a draught was given by Hewit.

"On the following morning, the draught Hewit had given began to purge the mare; after which she appeared to get much better, and walked comfortably about the place, commenced feeding, &c., and we all thought what a good cure Hewit had made: but, on the day after this, she became very lame, could not move, or scarcely stand: at last she fell down, and, I believe, was unable to rise. Hewit then said there was no chance of curing her, as the inflammation had been in her feet too long, and that you were very much to blame. Consequently my father had her destroyed."

In having entered thus fully into the foregoing details I am chiefly actuated by a desire to add my humble testimony to the fact, that, under the existing loose and insufficiently restrictive system of veterinary practice, the regular and qualified practitioner may in the course of his labours be subjected to many grievous annoyances, and depreciated in the estimation of his employers by the treacherous interference of unprincipled empirics—how, in the

conscientious discharge of his duties, he may, from the same cause, be oftentimes thwarted in carrying out his best and most laudable intentions; and, how persons, inadequate to perform what they profess, may with impunity venture to undertake (if they are unfortunately allowed) the important responsibility of preserving the lives of animals, that, owing to their ignorance and consequent injudicious management, are but too frequently rendered a sacrifice.

Such is the case that I have now described, but it is only one out of a thousand of similar character, that are constantly taking place in various parts of the country. The lives of thousands of valuable animals have been put in jeopardy, or even lost, by the uneducated pretender usurping that position which should be alone occupied by the practitioner of acknowledged competency.

This brings me to another and very important consideration. In addition to the evils just noticed, we must take into account those which militate against the public weal. The great bulk of mankind, and especially those whose minds are not sufficiently informed to enable them to act with sound judgment, are liable to be ensnared and governed by the wily sophisms of interested quacks, who, having no character to uphold, are reckless about the injury they may inflict upon the feelings or property of others, provided they can by so doing attain their personal ends. If a too great majority of persons are not sufficiently wary to distinguish between the propriety of confiding the well-being of the lower animals to the care of those who have sought, for a succession of years, every opportunity of acquainting themselves with their structure both in health and disease, and, on the other hand, the impropriety of countenancing an opposite state of things, it is to be hoped the contemplated enactment of legislative measures calculated to annihilate the dangerous impositions of those who have not been duly qualified by a previous course of study will, in the end, be the means of effecting a great public good, and will be cordially supported by every one that wishes well to his profession. It is to be lamented that, in these enlightened days, no compulsory regulations have been hitherto set in force that would by their operation tend to suppress such injurious proceedings, by prohibiting individuals whose qualifications have not been thoroughly tested from assuming the profession of veterinary science. Numerous circumstances concur in proving that the time has now arrived when it may be considered the duty of every properly constituted member of the veterinary profession to exert all his energies in effecting immediate redress of the grievances under which the duly qualified members of our art have too long laboured.

ON DIVISION OF THE FLEXOR TENDON IN THE HORSE.

By Mr. R. Davie, *V.S., Elgin.*

Being anxious to contribute my humble mite to the "New Series" of your valuable Journal, I beg to send you a brief account of a simple but useful operation which I performed in February 1841.

Having castrated an entire aged horse, the property of Mr. Barclay, of Inchbroom, that gentleman desired me to look at a pad that he was about to destroy, and which, he said, had not put one of his feet to the ground for three months, and he despaired of the pony ever being again useful.

On examining the animal I found that this was a case of contraction of the flexor tendon, and that the weight of the horse rested entirely on the front of the fetlock joint, the foot being turned backwards. I therefore told him, that I thought it was yet quite possible to bring the foot to the ground, by dividing the flexor tendon. He immediately determined that I should attempt the operation, and accordingly sent the pony to my establishment. It was rather low in condition, but it required no farther treatment, before the operation, than the paring of the feet and the putting on of a high-heeled shoe.

This being done, I commenced the operation by making a longitudinal incision, about an inch in length, through the integument on the inside of the leg, posterior to the nerves and bloodvessels, and nearly midway between the knee and pastern joint. I next separated, with the back of the knife, the tendon from its cellular connexion with the suspensory ligament; and then, turning the edge of the knife to the tendon, I divided it transversely, taking care not to injure the bloodvessels, nerves, and integument of the leg.

I, finally, by the aid of an assistant, brought the foot over my knee to its proper position. This being done, I observed that the ends of the divided tendon were three inches apart.

I brought the divided edges of the integument together by means of one suture, and put a bandage tightly round the leg, which I removed on the second day, to apply a little lotion, and then replaced the bandage again.

On the sixth day after the operation I permitted a little walking exercise; but as there was a slight suppuration, I removed the bandage, and applied a poultice for one day.

In three weeks the wound was perfectly healed; and, one month after the operation, I sent the animal home, free of lameness, and fit to walk, trot, or canter. As, however, there was still a little swelling on the leg, I applied a mild blister, which had the desired effect. My patient, after this, got two or three weeks' run at grass, and has since carried a lady, and occasionally other persons, and has remained perfectly sound and safe to ride.

From the success which has attended the operation in this case, and in others, I am inclined to prefer the transverse to the longitudinal direction.

CASES OF AMPUTATION OF TUMOURS FROM THE PENIS—OPEN JOINT—AND PUERPERAL FEVER.

By Mr. C. Hutson, *V. S., Winterton, Lincolnshire.*

Case I.

Aug. 8th, 1838.—I was called to attend a pony, the property of J. Soulby, Esq., Surgeon, of Spilsby, and upon examination I found a large tumour, of a scirrhous nature, on, and quite round, the lower and membranous part of the penis. I advised its removal; and, with the kind assistance of Mr. Soulby and another medical gentleman, removed the tumour, cutting into the integuments nearly round in so doing. We then brought the edges of the skin in apposition with each other, and confined them by suture. I then gave an aloetic purgative. Bran and grass diet.

29*th.*—Very little swelling—pulse 60—appetite good.

30*th.*—The swelling increased—the patient feverish—pulse 60—appetite good. Administer cooling powders of nitre and digitalis. The same diet to be continued.

31*st.*—He was evidently better, and continued to improve until the 8th of September, when he was dismissed.

August 1839, I was again called to see our patient, and found him nearly as bad as at first. We removed the tumour, taking care to extirpate the whole of the diseased part, and applying, afterwards, a solution of nitrate of silver, and giving him cooling medicine as before, his diet being bran and grass.

20*th.*—Pulse slightly increased, and the part swollen.

22*d.*—Every thing going on favourably, and on the 23d he was sent to grass.

September 21*st,* he was examined and found quite well, and so remains at the present time.

CASE II.

January 20th, 1842, I was called to a young horse, the property of John Barratt, Esq., of Winterton, that had been kicked by a pony (turned up on account of the frost) over the hock joint. I found the synovia flowing freely. Pulse 60, and the horse very irritable and full of pain. I gave him a cooling draught composed of sp. of nitrous æther, laudanum, emetic tartar, and digitalis, and bound up the wound; having applied a powder of myrrh, alum, and red bol.

21st.—Pulse 60, softer—pain nearly gone—synovia still escaping. Repeat the dressing, lotion, and draught. With now and then a slight access of fever, and increased discharge of synovia, the case went on well until the 8th of February, when the orifice was closed, and the patient apparently sound.

CASE III.

A cow, in good condition, the property of Mr. Walker, of Whitton, was attacked, on Saturday, October 2, 1841, with that much to be dreaded disease, puerperal fever. She had calved on the preceding evening, and, to all appearance, was going on well; but, on the owner going to her about eleven o'clock in the morning, he found her staggering, and she would not yield any milk—the pulse oppressed—a vacant stare, but the eyes sometimes drawn obliquely. I bled her freely until she dropped, and gave her a cooling purging medicine, with spirit of nitrous æther. I also ordered the application of gentle friction to the udder, and that the milk should frequently be attempted to be drawn.

7 P.M.—She cannot rise—pulse 70—her head continually on her side—she moans very much—no appetite—bowels constipated. Another purging and carminative drink, and her back and loins well rubbed with sp. tereb. et liq. ammon. She began gradually to improve from this period until the 4th, when she was found up and grazing. She had been out in the field from the time of her first attack, but with good straw under her and over her. She was driven home, about a mile. She then had her usual drink, and ate a little hay and moist bran with linseed.

6th.—She was better—the bowels freely open—pulse 40.

7th.—She yielded about three quarts of milk, but she eats sparingly. Tonic medicine was then ordered to be given, and on the 10th she was dismissed apparently well.

[We insert these two communications, not altogether on account of their originality, but on account of the plain, straightforward, and successful mode of treatment which they narrate.—Y.]

CASE OF SPRAIN OR LUXATION OF THE LUMBAR VERTEBRÆ IN A MARE.

By Mr. John Sherwood, *V.S., Sittingbourne, Kent.*

Having been a constant reader of your valuable publication for some years past, I now feel anxious to contribute my mite to the New Series. I will first give you a case that came under the management of my uncle, at Ospringe. A five-year-old brown mare was, on the 28th of July, 1841, taken from the paddock to the stable. My uncle was called from the stable by the coachman, while attending another horse, in order to look at this mare. He found her leaning against the stall, and sometimes resting on her haunches—similar to a dog in a sitting posture. Pulse 80, and sweating profusely. With the aid of two or three men she was removed from the stable. He found, as he thought, a dislocation of the spine about the 3d or 4th lumbar vertebra, as her haunches hit both the posts when she came out of the stable. He then looked round the paddock, and found that the mare had rolled into a hollow place in it, and there was a considerable quantity of her coat or hair on the brink of the place.

He bled her to the amount of eight pounds, gave a laxative ball, and ordered a liniment composed of the oils of turpentine and olives, with a portion of liq. ammonia ℥jss, to be rubbed well over the loins twice a-day. Upon this he placed a fresh sheep's skin, and directed that she should be kept close in the stall for the night.

29*th*, 10 a.m.—He again saw her, and found her more comfortable. Pulse 60; medicine operating freely. The sheepskin was removed on the 30th, and the liniment, with occasional laxatives, were continued until the 3d of August, during which time she improved much, but did not lie down for nearly three weeks. On the 8th, the loins were blistered. In the course of three weeks from the time of the accident she was ready again for work, and has continued at work, both for saddle and harness, ever since; in fact, she has carried a sixteen-stone man without evincing the least symptom of weakness.

ON THE GOOD EFFECT OF THE APPLICATION OF THE DEUTO-IODURET OF MERCURY.

By Mr. W. H. Surnek, *Hereford.*

Observing in the last number of your excellent periodical an account of the beneficial effects of the application of the deuto-ioduret of mercury by Mr. Lord, of Doncaster, I am induced to send you the following short communication, if you should think it worthy of insertion.

On the 1st of April, 1841, I rode a chestnut-horse, nearly thorough-bred, with the Herefordshire hounds, and, after a severe run of nearly two hours, my horse having cried "enough," I turned homeward. I soon found that he went very lame, and, on examination, I observed that he had thrown out two curbs.

Under the direction of Mr. Hall, whose pupil I have the honour to be, I reduced the inflammation by fomentation and physic, and then applied the deuto-ioduret of mercury in small quantities, well rubbed in every morning, the legs being washed before each fomentation. I continued this for a fortnight, and then applied the ointment on every fourth morning only.

The horse is able to resume his former duties, and quite sound. He has grown fat under this treatment.

ON EPILEPSY.

By Mr. J. Tombs, *V.S., Pershore.*

March 16th, 1842.

Dear Sir,—I certainly should be grieved to see our old friend, The Veterinarian, retrograde; and if the subjoined cases will have any tendency in forwarding its onward progress, they are at your service.

I am, dear Sir, your's respectfully.

April 21st, 1840.—A pony, the property of a clergyman of this town, when drawing a carriage on the road, became suddenly intractable, and ran into a hedge. He was taken home in an unconscious state. I was sent for, and found him plunging about, rearing up, and falling backwards, and when down his whole frame was dreadfully convulsed. After the fit had abated, I ab-

stracted a large quantity of blood from the jugular vein, which was as black and thick as treacle. I also gave a brisk cathartic. In an hour afterwards he got up, and ate a little hay.

22*d*.—Slight coma—rested his head on the manger and his body against the wall. Pulse natural;—repeated the medicine.

23*d*.—The medicine has operated, and the pony is apparently well. He was worked occasionally, and on the 8th of May I was again requested to see him. He was rearing up, staggering about, and perfectly insensible. It was dangerous to approach him. At length he fell down in a fearful state of convulsion, and kept knocking his head against the wall, and lashing out with all four feet: it took six strong men to hold his legs and head down before I could bleed him. I opened both temporal arteries, which bled copiously, and administered a bottle of ol. ricini. In half an hour after the bleeding he became quite tranquil, and got up; four hours after the fit he got fidgetty and excited—pulse quick—tremulous motion of the shoulder and thighs, which indicated another convulsive fit, which soon came on with greater violence than the preceding ones. After staggering, rearing, and kicking, he rolled against the wall, and supported his head by the manger. His mouth was widely opened, and his breathing exceedingly quick: he looked as though he was actually dying. He soon fell, lashed his feet out against the wall, and knocked his head against the ground most terrifically. With great difficulty his head was held down, and his feet secured with the hobbles. I then bled freely from the palatine artery—administered an ounce of aloes, and ordered the hobbles to be kept on until the following day, with a man to hold the head down.

9*th*.—He appears quiet. I released him. He got up, ate a little bran and drank some warm water. The bowels have not been relieved. Offer him warm water frequently, he, otherwise, being kept extremely quiet.

10*th*.—Although the bowels have not responded to the medicine, I am convinced there is a sufficiency of it already exhibited to purge eventually, therefore I shall not give any thing by the mouth, especially as he has a great aversion to have it opened.

11*th*.—The medicine acts favourably—his motions are very loose—pulse 50, and weak—he eats and drinks a little, and is quite conscious.

12*th*.—Fast approaching to convalescence. Has had no symptoms of convulsions since the 9th instant. Pulse 40. He neighs when the groom opens the stable door:—his appetite is much improved—the bowels in a very regular state.

16*th*.—Recovered.

26*th*.—Turned out to grass, brought up in June, and worked. In August he had a slight epileptic fit, which did not prevent his working.

March 1841.—He is in regular work, and has had no fit since. The obstinate constipation of the bowels, and the immediate relief given to the animal by profuse venesection, clearly shew a cerebral and nervous affection. I attended the pony, in 1838 and 1839, for repeated attacks of ophthalmia, which terminated in cataract and partial blindness. An interval of twelve months elapses, and then comes a more dreadful disease, viz. the one I have recorded, which induces me to think that the epileptic fits were idiopathic.

Convulsions of one Side of a sucking Colt.

June 8*th*, 1840.—The subject in question was a foal four months old. I saw him this morning, and on inquiry I found that he has had diseased joints some time, from the effects of the complaint known by the name of Wood-evil. He was lying down composedly. I forced him up, when the muscles inserted into the patella became contracted, drawn up in knots, and convulsed, from that bone being displaced by prior contractions of the muscles. Contractions and convulsions succeeded like-wild fire from the thigh to the head of the same side—in fact, all the muscles to the head, neck, ribs, back, haunch, and extremity, were cramped, drawn up in knots, and spasmodically affected. The muscles of the cheek were peculiarly affected. The mouth was drawn aside and opened, and could not be shut while the spasms continued. He staggered about for a few minutes, and then fell. The recumbent position gave him instantaneous relief. He has been subject to these spasms a few days. The stifle was simply blistered; the fits gradually wore away, and in August he was quite well.

COMPARATIVE PATHOLOGY, No. XXIII.

Chimpanzees.

By Mr. W. Youatt.

Male Chimpanzee.

September 6, 1841.—Not in quite so good spirits as his companions. Considerable discharge from the nostrils. Coughs.

14*th*.—Very little change. Cough continues. Discharge from nostrils less.

16*th*.—Brought yesterday into the monkey-house. Purges considerably—feeds very little. Still continues to cough badly. Will not take any exercise. Clothe them all. Give a desert spoonful of our black mixture—castor oil and the syrup of buckthorn and poppies.

17*th*.—The purging diminished, but the cough more troublesome. Appetite tolerable. Give minute doses of opium—one-sixth of a grain, every fifth hour. As soon as he found out the cheat, which was towards night, he refused to eat.

19*th*.—He would not take the drugged food. The opium was therefore discontinued, but he ate rice and sago and baked pears. The cough was very little abated. I think of the iodine, but am unwilling yet to resort to it. Give half a teaspoonful of syrup of ginger morning and night.

20*th*.—Appetite tolerable—moves about better—cough the same. Continue the syrup. We have generally found this the best, and often the only medicament, to preserve, in the slightest degree, the appetite and spirits of these animals.

21*st*.—Very little change, except that the cough and discharge from the nostril have increased. Continue the syrup and his usual food, and commence a course of iodine.

22*d*.—At the suggestion of Sir James Anderson, he was moved from the monkey-house to the kitchen, under the carnivora-house, and there put into a warm bath. He remained in the water six or seven minutes, when he was perfectly exhausted, and taken out. After he was thoroughly dried he rallied, and asked for some food. He, however, refused his rice and sago, but ate a pear. A little syrup of buckthorn and ginger was then administered.

23*d*.—A little more lively in the morning, but dull in the afternoon. His bowels are in good order, and he has fed tolerably. All hope, perhaps, needs not to be abandoned; but his cough and the discharge from nose have increased. That, probably, was the consequence of his removal to the kitchen of the carnivora-house, of which I was not aware until after it was done, but to which, perhaps, I should not have objected. The object was to prevent the diffusion of unhealthy gases from him among the other monkeys.

24*th*.—The bowels are in good order, and he feeds tolerably.

25*th*.—Very little change. Try what another warm bath will do for him. He remained in the water five minutes; and then, beginning to pant, he was taken out and rubbed dry. His clothes were put on him, and a blanket thrown over him. He lay there without moving for more than an hour. The castor oil mixture

was now omitted, but a little of the syrup of ginger was continued. After this he rallied, and ate and drank very fairly.

26*th.*—The watchman saw him about three o'clock this morning, and there appeared to be nothing amiss. He ate some food that had been prepared for him. At four o'clock he was found in the act of dying.

27*th.*—The poor patient was examined this afternoon, Sir James Anderson and Dr. Paris being present. The lungs were mostly of a pale pink colour, except where blood had been deposited from the position of the animal after death. On feeling them small tumours were immediately detected, and on cutting into them numerous tubercles of different degrees of hardness; and some of them, containing purulent matter, were perceived varying from a minute size to that of the top of a little finger. The heart was healthy, except that it, and the vessels immediately connected with it, were distended by black coagulated blood. The stomach was filled with pultaceous food. The spleen was sound. The liver large, and beginning to be softened. The mucus being gently removed, a very light pink blush of inflammation pervaded the whole of the intestinal canal. There was no apparent cause of death, except the distention of the heart, and that resulting from the lymphatic temperament of the animal. There was not strength to carry on the proper circulation of the blood.

Although differing from Sir James Anderson and Dr. Paris in some points, I perfectly agree with them, that our best chance of saving these animals is to give them a warmer and more equal temperature. To this I would add, *nutritious and somewhat stimulating food*, and a strictly observed course of iodine.

Female Chimpanzee.

September 6*th*, 1841.—Weakly, and coughs, but occasionally very lively.

14*th.*—Very little change. The cough slighter. Some eruption about her arms and chest.

16*th.*—The cough not so frequent or violent. Feeds well.

17*th.*—Cough still abating.

20*th.*—I was sent for in great haste. She lay at the bottom of the division—sensible—looking a little about her, but unable to move a limb. She was immediately put into a warm bath. The muscles rapidly relaxed; and, having been rubbed well after she was taken from the bath, the use of them returned, and she slowly walked into her cage. A little syrup of ginger was given,

and, afterwards, some of the never-failing castor-oil mixture. Dose from one to two drachms. I saw her again in the evening, and she was as well as before the attack.

21*st.*—She is as well as if nothing had happened. Repeat the mixture.

27*th.*—She seems to rally, and has not been heard to cough during the last four-and-twenty hours.

29*th.*—Again she coughs. Give her half a grain of tartarized antimony, and—that having vomited her—half a grain daily of the hydriodate of potash.

30*th.*—Sore mouth. On examination, the gum at the front part of the lower jaw was found ulcerated away, and the sockets of the teeth exposed. Bathe with diluted tincture of myrrh.

October 2*d.*—The swelling of the gums evidently lessened.

5*th.*—The healthy granulations increase, and she is lively and feeds well.

9*th.*—Still improving. The cough is trifling.

15*th.*—The cough is almost gone, but there is still soreness of the mouth.

29*th.*—The gums are again considerably ulcerated. Bathe them with tincture of myrrh. Make an ointment composed of one part of hydriodate of potash and seven of lard, and rub half a drachm of it daily and well into her chest.

30*th.*—She is worse. Her mouth smells horribly. Apply a solution of the chloride of lime and the tincture of myrrh, once each, in the course of the day. Continue the iodine friction.

November 2*d.*—The mouth is better, but the cough is troublesome. Continue treatment.

6*th.*—Very little change.

16*th.*—She was unusually cold. Cover her warmly, and give more ginger.

17*th.*—Between seven and eight o'clock in the evening she was found dead, closely covered up and cuddled to by the male.

18*th.*—She was carefully examined. The whole of the intestinal canal was devoid of inflammation, and the only departure from health was almost perfect emptiness of the intestine. In both the liver and spleen there were numerous tubercles. The heart and its investing membrane were apparently healthy. The chief disease was in the lungs. The right lung presented a dark red and mottled appearance, and considerable irregularity of surface. The prominent parts yielded on pressure.

On cutting into them, pulmonary cells were found, irregular, inflated, or filled with grumous blood, and a great part of them emphysematous, particularly round the edges. Every vestige of cellular structure was obliterated from the left lung; and the

substance—of a liver-colour—was hard, creaked under the knife, and strongly adhered to both the lower part of the side of the chest and to the diaphragm. The disease must have been of several months' standing.

Male Chimpanzee, Brutus.

Sept. 6*th*, 1841.—Lively, and in good spirits, but coughs.

14*th*.—Still coughs. The gums are getting swollen and spongy. Apply diluted tinc. of myrrh to them.

16*th*.—Cough better—discharge from nose diminished—feeds well, apparently improving. The diet of all three is principally sago and rice, but he has also dry bread, of which he is very fond. All of them have pears, raw, stewed, baked, and in every form. It is the food of which they are exceedingly fond.

17*th*.—No change, except apparent gradual improvement.

19*th*.—No apparent change.

20*th*.—Every day improving. Dismiss him at present from the report.

27*th*.—Again coughs, and a great deal more than I like. Warmth and good feeding.

29*th*.—Still coughs. Give half a grain of tartarized antimony, and, afterwards, a grain of the hydriodate of potash daily.

30*th*.—Cough somewhat abated.

Oct. 9*th*.—The cough has not quite left him, but it is very trifling.

15*th*.—Apparently much improved.

30*th*.—He begins again to cough sadly, and does not feed well—use on him the iodine ointment ordered for the female. His gums are worse than even those of the female. Apply the tinc. of myrrh.

Nov. 2*d*.—His mouth is better, but the cough is aggravated.

6*th*.—Very little change.

16*th*.—Very little alteration, but that not of a satisfactory kind. The sneezing and discharge from the nose are increased, and he is sadly susceptible of cold. The thermometer was rarely below 60.

19*th*.—He can scarcely be induced to take any kind of food—his cough is more frequent, and apparently painful. If we might dare to say so, he seems to pine sadly for his mate, who died two days before. The mouth is nearly or quite well. Continue the iodine.

22*d*.—He is apparently in better spirits. He comes to the bars and solicits us to take notice of him, and yet, if I dared to say so, it is a forced effort to be familiar and cheerful. Continue the iodine.

25*th.*—He is continuing to improve, *if it will last.* I use this language, because, in my opinion, his sociableness with us is a forced effort, for as soon as we leave him, he is a desolate and woe-begone animal.

28*th.*—A medical gentleman who saw him to-day fancies that his gums are again getting bad. We carefully examined him. A furry collection was about the edges of his tongue, and a little soreness under the tongue ; but there were not any sore places on his gums. We applied the diluted tincture of benzoin to the gums; but it was with some hazard to him and to the keepers that we could accomplish it. We must pause ere we again engage in such a struggle.

Dec. 1*st.*—The cough is not so frequent—the discharge from the nostrils is diminished—his appetite is better—his gums are well ; yet I do not dare to hope that we shall save him. Let a grain of iodine be daily given to him—and two grains more be rubbed into his chest every morning—keep him warm, and let the temperature be as equal as possible.

3*d.*—He his dull and chilly, with a slight discharge of mucus from the nose. He does not eat quite so well. Continue treatment.

4*th.*—The discharge from the nose has ceased—the appetite is returned—there is considerable itching. Omit the iodine friction. Rub a little sweet oil gently, but well, all over him. Continue the iodine internally.

7*th.*—A considerable quantity of scurfy matter is separated from his skin by the application of a brush. A medical gentleman recommended that he should be put into a warm bath. It would have taken half a dozen of our keepers to have accomplished this, and he, possibly, would have died in the struggle. Continue the iodine internally.

12*th.*—He seems to be really improving. He does not cough half so much, and the ointment is getting the scurf from him. Continue treatment.

14*th.*—The skin is rapidly becoming clearer and softer. We will get off a little more of the scurf, and then apply the ointment once more in good earnest.

16*th.*—Again have recourse to the iodine ointment.

18*th.*—Apparently improving, except that the itching is sadly troublesome. Apply externally an ointment of purified lard, with three grains to the ounce of opium. Give internally a grain each of antimonial powder and digitalis.

22*d.*—Very little change, and that for the better. The cough is very much diminished. The appearances are so flattering, that

we will discontinue our report for a while, but continue the treatment.

31*st.*—There was a sudden relapse yesterday. There is heaving at the flanks—increased cough—he is peevish and spiteful—scarcely regarding his food. Continue the powder, with opium instead of digitalis.

Jan. 1*st*, 1842.—It was well that he had the opium yesterday, for he howled all night, just as the others have done before they went off. No cough remains. The discharge from the nose has ceased, but he heaves sadly. Keep half-grain doses of digitalis and opium ready. While he is tolerably composed, give the digitalis with antimonial powder. When any of these exacerbations appear, give the opium and antimonial. In the evening he seemed to be very much oppressed with phlegm, and an emetic was administered.

2*d.*—The emetic did not act, and was, consequently, repeated.

4*th.*—The emetic did not fairly discharge its duty, but the patient is a little better. Continue the antimonial powder and digitalis.

5*th.*—His appetite is failing. Omit the antimony and digitalis, but continue the iodine friction. Give him a little preserved ginger, of which he used to be fond.

6*th.*—He will not take any thing but a little, and a very little, ginger.

7*th.*—He purges violently, and will scarcely touch even his ginger; but he was induced to take a little milk and rice well boiled. He was likewise coaxed to take half a grain of the acetate of morphia.

8*th.*—He has nearly lost the use of his hind extremities. The purging continues. Medicine and food as yesterday, with plenty of warmth, for he is getting sadly cold. He died in the course of the night.

On opening the abdomen, a layer of adipose matter, half an inch in thickness, presented itself, covering the whole of the intestines, and slightly tinged with yellow. The spleen was perfectly healthy. The liver somewhat enlarged, but otherwise healthy. The stomach perfectly healthy, but containing a little thick milky fluid, and a worm of the teres kind, eight inches and a half in length. There was not a trace of inflammation throughout the whole of the small intestines, and a very slight blush of it on the large ones. The lungs, generally speaking, were devoid of inflammation, except that there were a few hardened spots, either the nuclei of nascent tubercular affection, or the remains of disease of this character.

The immediate cause of death was indistinct and unsatisfactory—it was the formation of fibrous matter, closely adhering to various portions of the heart, and especially over the right ventricle. There did not appear to be any adhesion between it and the loose pericardiac membrane. On the left ventricle was a smaller portion of this morbid growth, and a little of it in the inner parietes of both ventricles. It was a morbid growth which I do not recollect to have seen before; and I can easily comprehend that, to a certain degree, it must have interfered with the action of the heart, and been an indirect cause of debility.

The slight trace of tubercular disease—was it the commencement of phthisis, or was it the remains of that disease yielding to a three months' course of iodine?

We have an Orang-Utan that has been with us more than a twelvemonth, and has gradually got rid of an apparently phthisical cough that threatened to destroy her. Our quadrumana generally are beyond all comparison more healthy than they used to be. Their habitation is better ventilated, and the slightest cough is treated by a small antimonial emetic. If it does not yield to this, a course of iodine immediately follows. Two years ago we lost all our quadrumana, and all exhibiting in various degrees the ravages of phthisis. Since that period not one has died of tubercular disease, and scarcely a trace of incipient phthisis has appeared in any of them, with the exception of these chimpanzees.

We will not draw any hasty conclusion; but, if our readers will permit, will oftener attempt a slight sketch of these inferior divisions of quadruped pathology.

RUPTURE OF THE DIAPHRAGM IN A MARE.

By Mr. W. Ernes, *V.S., London.*

On the 9th of March, about 8 o'clock in the morning, my attendance was required to a grey mare, of the cart-horse breed, aged eight years. There was no indication of illness on the previous evening; but in the morning she was found not to have consumed her usual quantity of provender, and refused the water that was presented to her. She appeared to be uneasy, and threw herself down violently.

On my arrival, I found her circulation but slightly increased—respiration normal—the visible mucous membranes pale—the mouth clammy—the tongue coated—the general temperature of

the body below the natural standard—she had been seen to void her fæces and urine on that morning—she frequently lay down and rolled about with great violence—she would often lie on her chest with her fore feet extended forward, and thus, for a few seconds, balance herself from side to side.

I suspected a rupture of some of the viscera, and communicated my suspicion to the owner. At 6 P.M. she died.

On the *autopsia cadaveris*, I found a rupture of the diaphragm, of an irregular shape, measuring from four to five inches each way. The edges were ragged, and seemed to indicate that the rupture had been caused by the sloughing of the parts. The remaining portion of the diaphragm was of a pale colour, and soft.

There existed also a rupture at the cardiac flexure of the colon. This was about eighteen inches in length, and seemed to have sloughed away, as portions of the intestines could be traced among the ingesta. The intestines exhibited traces of inflammation throughout—the liver and urinary organs were healthy—the thoracic viscera presented nothing abnormal, except a greater quantity of fluid contained in the pericardium.

If I may hazard an opinion on this case, I should say that the cause of these ruptures was a cancer, which seems to have destroyed the parts. The previous history of the patient will, perhaps, throw a little light on it. Rather more than a twelvemonth ago, this mare began to lose condition, although her appetite seemed to increase. Previous to this she had always been difficult to shoe, but from that time she lost her vicious habits in this respect; and for the last six months she was as easy to shoe as any horse that came to the forge.

I mention this circumstance to shew that she must have been gradually losing her health and strength. She was, however, never put under medical treatment, and was at work daily up to the day of her death.

A CASE OF POISONING IN PIGS.

By Mr. J. TAIT, *V.S., Melrose.*

THE following narrative will, perhaps, be acceptable to the agricultural readers of THE VETERINARIAN.

A few weeks ago, I was requested by a gentleman in this town to look at three of his pigs that were taken suddenly ill. Before my arrival, one of them had died. The other two were lying foaming at the mouth, with convulsive twitching over their bodies,

and they also appeared to be dying. I lifted one up, when it immediately commenced running round about and against any thing that happened to be in its way, or, meeting with an unyielding object, it stood thrusting its head against it. The other would not stand at all.

We gave them some purgative medicine, but without any effect, for they soon died.

I made inquiry of the man who fed them. He said that he had given them some dressings of barley a few hours before I saw them, in which was a great quantity of "*sturdy*," (*lolium temulentum.*)

On opening them, their stomachs and intestines were found to be highly inflamed. The lungs also were sadly congested.

It is often remarked by old people, that they were formerly in the habit of mixing the *lolium* with malt, when brewing beer, as its intoxicating nature is very great; hence, I suppose, its name "*sturdy.*"

A CASE OF VETERINARY JURISPRUDENCE.

By the same.

The sheriff of Banffshire granted a warrant for a mare, concerning whose health there was much dispute, to be killed if found to be glandered. She was destroyed. The person who bought the mare then commenced an action at law to recover the price he had paid for her. The affair was ultimately referred to A. W. Gardiner, Esq., Melrose. I send you his decision of the case. Should you think it worth insertion in The Veterinarian, it is at your service.

Decision of a Case between William Murray and James Kinnaird, referred to A. W. Gardiner, Esq.

"Having examined witnesses in the case between William Murray and James Kinnaird, I find that Mr. Tait, veterinary surgeon, declares it to be his opinion that the said mare must have had glanders for at least three months previous to the time at which she was destroyed, and, therefore, was labouring under that disease at the time Murray bought her. He bought her as having merely a cold, and that for a short time only, which is attested by three out of four witnesses, and Kinnaird did not tell Murray that she was running at the nose when he (Kinnaird) first got her, but which he now admits was the case.

"Murray having paid the full value of her as a sound beast, I conceive that he has been deceived; and, therefore, as the mare had the disease long before she was in Murray's possession, and, in my opinion, no person is entitled *under any circumstances*, to sell a glandered horse, I do hereby declare that the said James Kinnaird, and his mother, who was a party to the bargain, shall immediately return to William Murray the sum of £5..5*s*., that being the price paid by Murray for the mare, and that each party shall pay his own law expenses.

(Signed) "A. W. GARDINER."

Melrose,
6th Dec. 1841.

A CASE OF IDIOPATHIC TETANUS.

By Mr. A. S. COPEMAN, *V.S., Walpole.*

As there are but few cases of this disease in cattle recorded in THE VETERINARIAN, possibly the subjoined may not be uninteresting to some of its readers:—

January 28th, 1842.—Mr. Stophel, of this place, requested my attention to a year-old bull calf that was in rather low condition. About ten days ago his bowels were constipated, and a cathartic was administered to him, which acted well; but still he was rather dull, and ate sparingly. Yesterday he was observed to be disinclined to move about the yard, and this was accompanied by a peculiar unsteady motion of his legs and body generally; but as he continued to feed, and Mr. S. attributed the stiffness to cold, no farther notice was taken of him, except giving him a bran mash with a little corn in it, until the next day, when I was requested to see him.

Seven o'clock, A.M.—The symptoms were, pulse 96, rather full—respiration 8—dry bronchial râle—nose elevated—hind legs wide apart—conjunctiva injected—extremities and body generally warm—the muscles of the jaws slightly contracted—bowels torpid—the least noise increasing the pulse and respiration.

Treatment.—I bled him until the pulse faltered, with other symptoms of approaching syncope, and this, after a short time, appeared to afford him much relief. I next gave him a cathartic by means of a hollow tube and bladder attached; but this proved rather a difficult matter.

Nine o'clock, A.M.—Soon after my first visit he suddenly fell: we, however, presently lifted him up again: but his body and extremities appeared quite inflexible, and he could not stand—the

slightest noise or touch produces convulsive twitching of the muscles of the chest and abdomen—the eye is sunk deep in its orbit, and half covered with the membrana nictitans—the eye itself remains unmoved when touched, but the lashes move quickly whenever any object approaches it. There is nothing of that rigor of the muscles of the tail which is generally seen in the horse, but his jaws are firmly closed, and quite immoveable.

Large doses of cathartics, opium, strychnia, and hydrocyanic acid, both by the mouth and as enemata, were given, with potent stimulants to the head and spine. The greatest attention was paid to quietude, clothing, and the general comfort of the poor suffering animal, and all with but transient relief, until three o'clock P.M. on the following day, when the proprietor determined to put an end to his misery, which was effected by cutting his throat. I mention the mode of death, as it might influence the morbid appearances.

Autopsia cadaveris one hour after death.—Abdomen: the peritoneum free from inflammation. The first three stomachs were normal in their structure, but the rumen contained a large quantity of coarsely masticated food. The villous tunic of the fourth stomach was vascular, probably from the effects of the medicine, which, from its smell, &c., it evidently contained. Intestines normal, except the rectum, which was distended with hard fæces in small buttons, coated with albuminous matter, although large quantities of the same character had been removed by the enemata, &c. The bladder was distended with straw-coloured urine, but the mucous tunic was healthy. The kidneys, liver, and omentum, were in a natural state. The spleen was slightly congested and enlarged. The lungs congested—the right lobe mostly so, for he lay most on that side. The heart and other parts of the thoracic viscera were healthy in their structure. The pia mater was much congested, and the medullary substance somewhat softened. The spinal marrow, in its course through the cervical and dorsal vertebræ, exhibited considerable injection of its vessels, which, in the lumbar division, increased to a dark tint, shaded with green, as if decomposition had already commenced.

I beg to ask your opinion, or that of some of your talented correspondents, Are these lesions characteristic of tetanus or paralysis, or a complication of both? Was it a case of tetanus consecutive on paralysis, as the jaws were not perfectly and rigidly closed until after he fell? Lastly, does the morbid state of the *lumbar portion* of the spinal cord account for the distended state of the bladder and rectum?

ESCAPE OF A CONSIDERABLE PORTION OF THE OMENTUM THROUGH A WOUND IN THE ABDOMEN—ADHESION OF TUNIC AND TESTICLE IN A HORSE—DEFICIENCY OF ANY ANAL OPENING IN A LAMB.

By Mr. J. Younghusband, *Penrith.*

Case I.—In the month of August 1841, I was sent for by my friend Mr. T. Oldman of Linewath, to examine a mare that had staked herself while grazing in the pasture during the night. It appeared she had placed her fore feet upon the top of a hedge for the purpose of reaching grass from the other side, when her hind feet slipping from under her, she fell upon a stump of wood, that penetrated through the integuments of the belly, and through which a portion of the omentum has made its appearance.

After examining the wound, I thought there would be no difficulty in returning the protruded portion without casting the mare; but as soon as I attempted to return one portion another made its appearance, and thus I was baffled in my attempt.

I now saw that I ought to have cast the mare at first, which, however, I now did; but in falling, and in her struggles when down, about two feet more of the omentum made its appearance, which I attempted to return, but found impossible. There was evidently no other remedy than to cut away the whole of it, which I did close to the wound, returning the small portion included between the lips. I then closed the wound by sutures, and she was released.

A short time after being placed in her box she appeared to be severely affected with what the attendants called *griping pains*, but which I was satisfied arose from the presence of air in the abdominal cavity, which had insinuated itself through the wound while the mare was down. Being fearful of the consequence, I bled her rather severely, gave an anodyne drink, had her well clothed, and which in a short time effectually relieved her. After this the wound healed rapidly, with very little suppuration, leaving only a small hernia, which in no way inconveniences her.

Case II.—In the same month I was requested to castrate a six-year-old horse, in good condition, and that had never served any mares.

After a little preparation by diet and physicking, I proceeded to operate. On casting the horse and well cleansing the parts, I removed one testicle in the usual manner with the actual cau-

tery, which I found no difficulty in accomplishing. I then commenced to remove the other in the same manner; but, after opening the scrotum and dividing the tunica vaginalis, I met with a difficulty which I had not anticipated—the whole of the tunic and testicle were one mass of adhesion, which I attempted to separate, but could not. I then placed the clams upon the cord, and with the knife cut away the whole, arresting the hemorrhage with the cautery. The horse was kept upon a cooling regimen. Very little swelling took place—suppuration was slight, and in the course of a fortnight he was at his usual labour as a roadster.

Case III.—Being attending a mare in my neighbourhood, I was requested by the shepherd to examine a lamb which he said had no place through which it could void its dung.

I found the place where the anal opening should have been without the least appearance of any orifice; but, after well examing the part, I thought that I felt some hardened fæces. I then divided the skin with a lancet, making a tolerably free incision, so as to admit of the escape of excrement, which the animal immediately voided in a large quantity.

The wound was kept open by the introduction of a small canula twice a-day at first, and afterwards only once. Small doses of opening medicine were given at times, but as the animal seemed healthy, and sucked its dam, not much was required. In a short time the opening had become a perfect anal orifice, and no further treatment was required. It is now a fine healthy-looking sheep, and two years old.

THE VETERINARIAN, APRIL 1, 1842.

Ne quid falsi dicere audeat, ne quid veri non audeat.—Cicero.

Being compelled in the course of the last month to travel into some distant parts of the country, we have been brought into contact with several old and valued friends, and with others whom we had previously known only by repute. Of the general feeling of the profession, so far as we had the opportunity of ascertaining it, we may hereafter speak; but there was one circumstance to which we allude with much regret—the conduct of too many of the junior members of the profession, if, indeed, they may be considered as belonging to the profession.

They have been brought up under their father's roof, or, coming from a different line in life, they have been apprenticed to some veterinary surgeon. They have conducted themselves with a certain degree of propriety, and they have acquired some useful knowledge—they have been accustomed to various manipulations, a quickness and neatness in the performance of which are of great importance—but they have had neither time, nor opportunity, nor inclination to make themselves acquainted with the cause, or diagnosis, or perpetually varying character and treatment of disease.

Their apprenticeship has passed, and what course do they pursue? Do they present themselves at the Veterinary College, and honestly devote themselves to the study of the anatomy of their patients, without a perfect knowledge of which they are liable to continual and irreparable errors? Do they inquire into the laws by which the various functions of life are connected and discharged—or do they trace, connected with the anatomy and physiology of their patients, the causes of disease and the laws of life and of death? No; but with the presumption and folly of youth, they look out for some suitable residence, and set up in business for themselves. In the town of Liverpool no fewer than three have done so within the last half year, and in other parts of the country we have heard of seven others who have pursued the same objectionable course of conduct. Can they possibly hope to succeed?

We had some conversation with two of them. The first stated that, from the diffusion of the late abominable Circular, the practice of veterinary surgeons everywhere was fearfully diminished, and that, with his present prospects, he really could not afford to spend £100 or £150 at the College, and was compelled to adopt the course which he did. It was difficult to reply to this; and we can only hope that some favourable circumstances may, at no great distance of time, enable him to effect that which he evidently desired—a residence at one of our schools.

The other took a somewhat equivocal course. He seemed to have the means of meeting the expenses of a College education, but he professed to doubt the advantages that it would bestow. "The lectures on the pathology of the horse," he said, "were

few and far between; and, as to cattle, nothing of sterling value was taught." He maintained that it would be far more profitable for him to go into practice than to waste his time and his money at the College. I did not quite believe all that he said; but I could not deny that much had wanted altering at head-quarters with regard to certain species of instruction, although of late, and to a material extent, considerable improvement had taken place. Another year must not, cannot pass over, without a thorough change in the instruction communicated to and the general advantages possessed by the pupils at the Veterinary College.

Circumstances like this will also deserve the attentive consideration of the Committee of Veterinary Surgeons, to whom the profession has entrusted its honour and welfare. While that Committee will demand that no one shall be recognized as a member of the profession who has not given proof of his previous diligent study, it will endeavour to remove the obstacles which fearfully impede the progress of those who would honestly devote themselves to the practice of their art. The course to be pursued is sufficiently plain, and the advocates of the cause of veterinary science can scarcely fail of ultimate success.

Y.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

An Experimental Essay on the Relative and Medicinal Properties of Iodine and its Compounds; *being the Harveian Prize Dissertation for* 1837. *By* Charles Cogswell, A.B., M.D., &c.—Black, Edinburgh, 1837.

The happy results which have in many cases followed the employment of iodine in human medicine have led to its introduction into veterinary, and so far as trial of it, as a remedial agent, has been made, we have every reason to be pleased with such an addition to our pharmaceutical catalogue. Few subjects require more patient investigation and attention, and, after all, are more

likely to end in unsatisfactory results, than the testing of medicines. Dr. Glover read a paper to the Royal Medical Society (of Edinburgh), in which he appeared to prove that IDIOSYNCRASY is the only *constant* source of uncertainty in our science, though this idiosyncrasy is itself subject to variation, from the varying constitution of an individual at different times; not to mention the physical causes ever operating to complicate and perplex our investigations, and the attention constantly demanded of us to numerous considerations of a chemical nature. People tell us, "one fact is worth a dozen theories;" in allusion to which the late esteemed and lamented Dr. Birkbeck has more than once reminded the writer of this, that *facts are not always truths*. It was a remark of Dr. Gregory, in his discourse on the duties of a physician, that there are more false facts than false theories in science: at the time of making which, he may be conceived to have had therapeutics more particularly in his mind. Indeed, when we come to consider the idiosyncrasy of the patient, the ever-varying circumstances, physical and chemical, he is more or less influenced by, as well as, in some instances, the varying nature of the medicinal itself, we shall feel less surprise and disgust at the apparently incongruous and irreconcileable reports of different practitioners on the supposed virtue or efficacy of medicines of recent introduction.

Iodine, however, is one of those remedies which, though novel as regards its name and true nature, yet comes into practice with an established reputation as a remedy of indisputable service. It, as *iodine*, found its way into medicine in consequence of an idea which, about the year 1820, suggested itself to Dr. Coindet, that the ashes of the *fucus vesiculosus*, long celebrated for the cure of bronchocele, might owe their specific virtues to the possession of this ingredient. This supposition very soon received ample verification from the successful trials that were made with iodine; since which it has become equally apparent, that the corresponding powers of *burnt sponge*, in which Dr. Fife detected the same principle, arise from no other source: thus affording, as observed by Dr. Herschel, "a splendid example of the re-action of pure science upon the physical necessities of the human race". A retrospect into medical history shews that, at a very early date, burnt sponge was applied to the treatment of scrofula, and other glandular and goïtrous enlargements, and of catarrhal affections, and where the kidneys required to be stimulated. In the thirteenth century, Arnoldus de Villa Nova, a celebrated physician and alchemist, born at Villeneuve, in France, taught the use of burnt sponge as a remedy for enlargements of the thyroid gland: from which period, down to the era of Coindet's discovery, its name

seems to have been associated with bronchocele, just as unerringly as we connect bark with intermittent fever at the present day.

There are two doctrines regarding the manner in which the agency of iodine on the living body is affected by chemical union, which seem to divide the medical world at present. Some are of opinion that iodine and its compounds all follow essentially the same line of action,—that is to say, that, when iodine is indicated, it is a matter of indifference which of these drugs is exhibited; while others—among whom is Dr. Thomson—maintain that the compounds combine the properties of the substance united to the iodine with those of this substance, and operate accordingly.

As these theories cannot both be true together, Mr. Cogswell imagined that the path for him to pursue was that of making original investigations, with a view of determining whether either, or which of them, had its foundation in nature. Unfortunately, however, Mr. Cogswell considers that his results do not distinctly warrant him in adopting the conclusion of either party.

Such is a brief outline or rather some culled extracts from the Introduction of the work before us. There is sufficient in our quotations to shew that Mr. Cogswell has taken up a subject of the first importance to medical men, be they human or veterinary; at the same time, we may add, Mr. C. has given his reader every earnest to expect a thorough practical investigation. How he has fulfilled such expectation we will now — to the extent that our limits will permit—proceed by further extracts to demonstrate. Passing over its chemical properties—which are now well known and determined—we come to the

Physiological Action of Iodine.

Potent as iodine manifests itself to be externally, yet, when given internally, there appears, both in the human subject and in animals, as regards manifest or tangible effects, a sort of insensibility to its action. Dr. Kennedy, of Glasgow, exhibited within eighty days 953 grains of iodine, in the form of tincture, to a girl, whose health did not seem to be anywise affected. Mr. Dillisser alleges that he gave within the space of two months 1019 grains of iodine to a female labouring under cancer. In this case the consequences were anorexia, quick pulse, ulceration of the mouth, and fœtor of the breath, of a different kind, however, from that which arises from mercury; but ptyalism is not mentioned.

Mr. Dick, veterinary professor, administered iodine to a horse, for three weeks, in very large doses, without producing any symptom which could be referred to its influence, except an unusual disregard for water. The average daily allowance was two drachms,

administered in quantities ascending from a drachm up to two ounces.

The observations of Orfila and others, however, singularly clash with the above. Six grains, taken by Orfila himself on an empty stomach, affected him with a sense of heat and constriction in the throat, nausea, eructations, and pain in the epigastrium, followed in ten minutes by slight vomiting. The pulse, and respiration, and heat of the body, also became augmented. Dogs exhibited very analogous effects. From two to three drachms brought on vomiting, and when this was effectual the animals recovered: as took place with Majendie. But when a ligature thrown round the gullet prevented the stomach from rejecting its contents, a state of depression was very quickly produced. The animal uttered plaintive cries; the intestinal evacuations, if any appeared, were solid and scanty; and death gradually supervened in periods varying from two to seven days.

Two drachms of the tincture of iodine injected into the jugular veins of dogs produced convulsions, prostration, deep and loud respiration and strong and tumultuous action of the heart. In about two minutes both the respiration and the heart's action became slow, so as scarcely to be perceptible; and in a couple of minutes afterwards the animal breathed his last. This experiment, however, is hardly a fair test of iodine itself; inasmuch as Orfila killed a dog in a few seconds by injecting four drachms of pure alcohol into the jugular vein.

In such animals as died in Orfila's experiments, he found the stomach internally yellow, and displaying patches of yellow mucus scattered over its lining membrane, as well as a number of little ulcers in the great *cul-de-sac*, but no morbid appearance either in the intestines or the other viscera.

Iodine, even in very small proportions, it appears, may make an immediate powerful impression on the alimentary tube. It also takes effect on the nervous system, producing giddiness, head-ache, stupor, intoxication, and, in some instances, convulsive movements. As regards the air-passages, it is recorded by Dr. Manson, that the sense of smell returned under its influence after an absence of three years, supposed by him to arise from detumefaction of the Schneiderian membrane. Increased expectoration, cough, hæmoptysis, and other thoracic disorders, have been ascribed to it; though M. Lugol declares he never saw any of these accidents; which, probably, was owing to his peculiar and cautious method of using the remedy. Whether iodine can give rise to salivation is a question much in dispute. Soreness of the mouth and fœtid breath are known to have been induced without the accompaniment of ptyalism. Various therapeutic facts

conduct to a conclusion that iodine exerts some action both on the liver and spleen. In respect to the generative system, the most celebrated result attributed to the use of iodine is, the production of atrophy of the mammæ and testicles, of which there are some well-attested cases on record. Such histories, however, are far from common. Dr. Pereira says, he has seen iodine exhibited hundreds of times, with no such unhappy event. Professor A. T. Thomson includes iodine among his diuretics. Diaphoresis on debilitated patients, and erythema and eruption on others, are the effects commonly ascribed to the action of iodine on the skin.

That iodine, when incautiously administered, is endowed with sufficient energy to produce such inauspicious and even dangerous symptoms as have been ascribed to it, cannot be questioned; while, at the same time, these proofs of its power when abused far from countervail the reality of its possessing wholesome properties, or there is no truth in the adage, "Nihil prodest quod non potest lædere idem."

Some have conceived the whole physiological character of iodine to be expressed by the definition of "a stimulant to the absorbent system." But that something farther requires to be included is more than probable, otherwise, in certain cases, there is no very obvious mode of explaining its action. For instance, this remedy has been found remarkably influential in putting a check upon the ulcerative process, so that in the same patient, and on the same limb, the arrest of a spreading cachectic ulcer may accompany the absorption of a node. "Here are two actions of a remedy," as Mr. Key remarks, "opposed to each other, and inexplicable so long as ulceration is regarded in the mere light of absorption;" and this eminent surgeon is inclined to ascribe the result to some modifying influence exercised over the nervous or vital action of the diseased surface.

Is Iodine a Cumulative Medicine?

The symptoms occurring at the commencement of a course of iodine having been thought to bear a mildness and obscurity hardly commensurate with the apparently accumulated violence of their development after proceeding a certain length, Dr. Coindet (its discoverer) was led to look upon iodine as a remedy which tends to *saturate* the economy before displaying its action. That iodine, after being taken, is rapidly absorbed, is evident from its speedy appearance in the urine; while the period of its disappearance from the secretion might shew how soon it had passed out of the system. The chief objections are, that the iodine *may* remain fixed in the tissues without

tending to make its exit by the kidneys, although, for a substance possessing a tendency to form soluble combinations, this does not carry very much weight; and that it may be discharged through the bowels. With a view of throwing light upon this latter supposition, Mr. Cogswell made the following experiment:—A young setter-dog commenced with taking half a grain of iodine twice a-day, in the form of pill. The dose was gradually raised, and by the fourth day amounted to a grain and a half, when the animal began to betray a much sharper appetite (an effect it is said to have on man, and, as a consequence, to increase the *embonpoint*). He also suffered the saliva to drop involuntarily, and voided both his urine and fæces in greater abundance. On the ninth day, his daily allowance of iodine had risen to four grains, which quantity, lastly, was quadrupled by the seventeenth day, when (seventy-three grains having been taken in all) the drug was discontinued. On the day succeeding the last exhibition, the animal scarcely retained any power of locomotion, and in the act of walking, or rather crawling, kept one of the hind feet constantly uplifted. He took little food, and what he did take was with little apparent appetite. In a couple of days, however, he began to revive and walk with less difficulty; and after the lapse of five days from the cessation of iodine, when the symptoms arising from it were much abated, he was destroyed by prussic acid.

About the middle of the experiment some of the urine was collected, and found to contain iodine in the combined form to a highly appreciable extent.

During the whole period no vegetable aliment was given.

The brain, the spinal chord, the stomach, the muscles of the thighs, and the blood, were examined respectively, for the presence of iodine, by digesting each substance, in a state of fine division, in water which contained a little *aqua potassæ*, pouring off and evaporating the opaque liquor, and igniting the residue in a platinum capsule; after which the ash was boiled in water, and this fluid treated with starch and sulphuric acid. The blood, with the brain and stomach, thus presented a trace, and but a trace, of iodine; none, however, was discovered in either the spinal marrow or the muscles.

The above experiment is, obviously, not calculated to indicate the exact amount of iodine contained in the tissues, on account of the application of heat during the analysis. It may, nevertheless, afford a hint for the guidance of future inquiry.

P.

Illustrations of the Breeds of the Domestic Animals of the British Islands, consisting of a Series of coloured Lithographic Prints of THE HORSE, THE OX, THE SHEEP, THE GOAT, AND THE HOG. *By* DAVID LOW, *Esq., F. R. S. E., &c.* Parts 11, 12, and 13.

THIS work progresses in interest and value as it approaches its close. The 11th number is devoted to milch cattle, and particularly to the Scottish breeds. First among them, as regards the quantity and the quality of the milk, stands the Ayrshire breed —a few years ago scarcely deserving of notice—not mentioned at all by Culley, either in his early work in 1790, or his later accounts of the recognised breeds of the north; and described by Ayton as, within his own recollection, being a puny unshapely race, rarely yielding two gallons of milk in the day, or exceeding twenty stones when fat.

It is now generally supposed to have descended from the Alderney breed, a few individuals of which found their way to the parish of Dunlop, and whose value was soon acknowledged there. This tradition is confirmed by the similarity between the Alderney breed and the modern Ayrshire. The general resemblance is now so great, that the one may occasionally be mistaken for the other. There certainly has, at some period, been a mixture of blood between the two. The Ayrshire cow is docile, gentle, hardy, and gives a large quantity of milk, in proportion to her size and food. It fattens quickly; but yields, in comparison with some other breeds, a small quantity of meat. This fault, however, has been remedied to a considerable degree, and the Ayrshires are much larger in bulk than they used to be.

Having mentioned the Alderney as the progenitor of the Ayrshire breed, the next cut is naturally that of the Alderney, a small and somewhat ill-formed breed, but highly esteemed for the quantity and richness of their milk; hence, in many parts of the southern districts, they are regarded as a kind of appendage to the park and rural villa.

The author now travels farther north, and describes one of the varieties of the Fifeshire cow. The animal of which he gives a beautiful portrait is black, with a little white under the belly. She belongs to the Falkland breed, a race of cattle introduced 200 years ago, and far superior to the mixed varieties that have succeeded to it.

The *Sheeted* breed is next given, not on account of any peculiar value which it possesses, but from the peculiarity of its colour,

the shoulders and haunches being red, while a white colour covers the body like a sheet. It is a native of Somersetshire.

To this succeed some valuable remarks on the general management of the dairy, from the earliest periods of Greece and Rome to the present day, including every valuable breed in every country.

The 12th Part returns to the sheep. It commences with the Romney Marsh breed, of the ewe and ram of which beautiful drawings are given. To this follow some interesting sketches of the old Teeswater, the Warwickshire and Staffordshire, and Devon and Somerset long-woolled breeds. The next are the long-woolled sheep of Ireland, of whose improvement, or almost total change, an interesting account is given.

The Cotswold breed is next depicted—not the Cotswold of former times, so celebrated for the length and fineness of its wool, but the sheep of the present day, superior in size to the New Leicesters, with a fleece of seven or eight pounds in weight, and from six to eight inches in length; hardy, thriving well under proper treatment, frequently yielding twins and supporting them well.

This Part concludes with portraits of the New Leicester ram and wether, of which we will only say, that they are splendid portraits. The history of this breed is given with much fidelity and spirit.

A short classification of the different breeds of sheep completes this number.

In the 13th Part Mr. Low returns to the subject of cattle. He first gives a drawing of the Herefordshire cow, bred by the Earl of Talbot.

To this follows a bull of the long-horned breed, and a lengthened but interesting and faithful account is given of the improvement, or, more properly speaking, the formation of this breed, by Mr. Bakewell.

To this succeeds a bull of the short-horned breed, by Earl Spencer. The perfect contrast between the two is a pleasing object for study.

A cow of the same breed completes this Part. The history of this breed of the Collings contains much interest.

We can truly affirm that this splendid work continues to maintain its original fidelity and sterling value.

The history of the different breeds of cattle is given with much fidelity and truth. Y.

A CASE OF RABIES IN A HORSE.

[Extracted from Le Recueil de Med. Vét., d'Avril 1841.]

An entire horse was brought to the Veterinary School at Alfort on the 24th of June, 1840. Since the preceding evening, he seemed to find some difficulty in swallowing, whether he ate or drank. Both the masticated food and the fluid were returned through his nostrils. The character of the animal had suddenly changed. He was sadly unquiet, and was continually pawing the ground. He threw himself on the right or the left if any one endeavoured to touch his throat, but, otherwise, he neither attempted to kick or to bite.

When I saw him he was fastened to a ring in the wall, and pawed the ground without ceasing. I unfastened him, and gave him some water. It was returned through the nose. I examined his throat; it was a little swollen, and seemed to be painful. I succeeded in seizing his tongue to examine his mouth;—it was filled with ropy spume, but the mucous membrane was in its natural state.

I thought at first that it was the commencement of angina, and I attributed the impatience and irritability of the animal to the difficulty of breathing which he was beginning to exhibit. He was bled, and the proprietor took him away with some cooling medicine.

At eight o'clock on the following morning he was brought again to the infirmary. The horse had been restless during the whole of the preceding day and night. He rolled as if he suffered from colicky pains. He was continually pawing the ground with one or the other fore-foot. He gnawed his manger from time to time. Sometimes he seized a mouthful of the skin of his fore-arm, and seemed as if he would tear it. The sight of a dog produced a violent state of irritation—he endeavoured to bite him, or to strike him with his feet. When he saw other horses, contrary to his usual habit, he endeavoured to attack them with his teeth and his feet.

This change, so extraordinary in a horse that had been habitually so good-tempered, caused the proprietor to wish to bring him back to the school. He was easily untied and led from his stall, without attempting to kick or to bite any one; and the man who held the halter, not without danger, but fortunately without accident, led him from Villie-juif to Alfort. Several times during the journey he lay down, rolled and beat himself violently, and tried to seize several horses and especially some dogs which

he met, but without attempting to attack his conductor, who arrived at the school in perfect safety.

State of the animal.—As on the preceding evening, he was continually beating the ground with his feet. He was in a state of impatience and irritability difficult to describe. Scarcely did the hands of any one approach his throat than he dashed right and left, until he fell. His eyes were bright, glistening, and with a peculiar expression of savageness—his ear was constantly laid back, and he started and listened at every noise—the alæ of his nose were retracted, and his respiration was precipitate and tremulous: his countenance conveyed the expression of mingled anguish and fear, as if he were conscious that some danger threatened him.

His proprietor having mentioned how much the sight of a dog irritated him, I placed one of these animals before him. Immediately there commenced a state of terror and fury, that, with some brief remissions, did not cease until his death, which took place some hours afterwards.

He exhibited the most outrageous fury. He darted towards the place at which the dog was placed—his mouth was filled with foam—his fore limbs were violently agitated—he beat the pavement with his feet—then he seized the skin of his fore-arms and violently tore it. Every thing around him soon began to irritate him. As the student who had placed the dog before him wore a white apron, he endeavoured to throw himself upon another, who was clothed in a similar way.

A bucket of water was placed before him. He plunged his head to the very bottom, but was not able to swallow a drop. The food that was offered he furiously seized, but rejected it immediately without the slightest mastication.

The presence of other horses produced on him the same effect as dogs, or even greater. At the sight of them his fury was redoubled. He made the most violent efforts to detach himself from the wall, and rush upon them. Every part of him was in a state of almost incredible agitation, and he had not a moment's rest until the objects of his fury were removed.

Fearing that he might tear himself from the wall to which he was attached, other bonds were thrown around him, and, while this was doing, his fury was really frightful. His efforts to liberate himself did not cease for a moment, and his cries resembled those of a pig when he is stuck. During two hours this continued without the slightest remission, and then he began to be a little quiet from absolute exhaustion. He threw himself on the ground, and was motionless and violently shook for several minutes; and then he sprung up with renewed force, and

seized upon every thing that he could grasp within his teeth. This continued more than an hour, when a general exhaustion began to shew itself. When he attempted to get up, he drew with pain his hinder limbs after him, and when he was upon his legs he vacillated from side to side at the slightest impulse.

The paralysis was more confirmed as death approached.

Between ten and eleven o'clock he was extended on his flank, his fore-limbs continually agitated—attempting in vain to rise—and dreadfully tearing his arms and legs. At length the pulse began to falter—the beating of the heart became irregular—his features rapidly shrunk, and at eleven o'clock he died.

Autopsy.—Some red points presented themselves on the mucous membrane of *the stomach* and the surface of *the spleen*.—The mucous membrance of *the duodenum* was of a vivid red, in the neighbourhood of the pylorus. There was considerable turgescence of the folds of *the pharynx*. The mucous crypts were large and highly injected. There were ecchymoses on and under the membrance of *the heart*. The bladder was about half filled. *The plexus choroïdes* were injected, and there was a little light-coloured fluid in the right ventricle of the brain. There was nothing amiss in *the spinal chord* or its membranes.

[This narrative is introduced not as containing any thing absolutely new, but for the sake of comparison with the same disease in our country.—Y.]

A CASE OF ENDOCARDITIS. ULCERATION OF THE INTESTINAL MEMBRANE OF THE HEART.

By M. Mercier, *M. V., à Evreux.*

The patient was an entire horse, three years old, and of a sanguine temperament. It had been three months in the possession of the owner, and had always been well fed. The occurrence of phlebitis following a bleeding from the jugular rendered his confinement to the stable necessary for the space of a month, but he returned to his work on the 17th of March, 1839.

On the 20th he refused his work, and walked as if he was foundered. A large bleeding was effected, and he was reconducted to the stable. In the course of the night he became worse, and I was requested to see him.

Symptoms.—He had a sad dispirited appearance. His skin was hot—the respiration somewhat accelerated—the respiratory murmur natural—the beating of the heart strong—the pulse full and quickened—the mucous membrane of a yellowish red colour—considerable lameness of the left fore-foot, with tenderness at the scapulo-humeral articulation.

Diagnosis.—Acute articular rheumatism, with strong febrile reaction.

I ordered him to have warm gruel, and to be warmly covered, reserving my future proceedings until I saw him in the morning.

21*st.*—He had lain down during the remainder of the night, and had no evacuation of urine or dung. I abstracted eight pounds of blood. It was red, coagulated in less than seven minutes, and the black clot was scarcely two lines in depth. The white coagulum filled the remainder of the glass into which it was received, with the exception of a small portion of serosity. I administered some emollient injections in the course of the day, recommended a very restricted diet, and applied a liquid blister over the whole of the shoulder, which I supposed to be the seat of rheumatismal pain.

22*d.*—The affection of the shoulder has disappeared, and seems to have attacked the right hip joint, which is exceedingly tender when pressed upon, and which is the seat of very great lameness. Seven pounds of blood were abstracted, the appearance of which was the same as that abstracted yesterday. A blister was applied over this new seat of weakness and pain.

23*d.*—He does not now attempt to rise, although the pain and the lameness seem to have quite disappeared. The respiration is evidently painful, and the labour of breathing is very great. There is great acceleration in the movement of the flanks, with difficult passage of air through the respiratory passages. There is considerable resonance when percussion is applied, and the beatings of the heart are unusually strong. There is no unusual sound on auscultation of the cardiac region. The pulse is full, and much accelerated. Eight pounds of blood were withdrawn, and a blister was applied over the apparent seat of lameness.

24*th.*—He is now constantly lying down ; but the pain and the lameness seem to have completely disappeared. The heaving of the flanks is now greatly accelerated, and the murmur in the bronchial passages is every where audible. There is evident resonance on percussion. The pulsation at the heart is very strong, but there is no particular sound when auscultation is applied to the cardiac region. The pulse is full and much accelerated. Eight pounds of blood were again detracted.

In the presumption that there might be inflammation of the

pericardium, I applied two large vesicatories on the side of the chest.

The blood coagulated in six or seven minutes, and presented scarcely any albuminous separation.

25th.—All the symptoms have increased in intensity. The beatings of the flanks resemble those of a horse with violent cough. The pulsations of the heart are violent and precipitate, but the pulse at the jaw is less violent. The prostration of strength is extreme.

In the night between the 25th and 26th the horse was continually groaning, acute cries occasionally intermingling. This continued during a part of the 26th, when the difficulty of breathing approached almost to suffocation, and at six o'clock at night the horse died in violent struggles.

Post-mortem examination at eight o'clock in the morning.

The Thoracic Cavity.—The lungs were discoloured. Their volume was considerable, and had not diminished under the pressure of the air. They crepitated when pressed with the hand. The interlobular cellular tissue was infiltrated with air—there was general emphysema produced by the efforts attending the difficult breathing. The pericardium presented nothing remarkable.

The heart was more voluminous than usual. The right ventricle was distended and flaccid. The cavity of the ventricle presented everywhere, 1st. A minute injection of the lining membrane of the heart, particularly at the base of the valves. This injection was also observable in the corresponding auricle. 2d. Small but numerous ecchymoses in the cellular tissue beneath the internal membrane of the right cavities. These ecchymoses were very red, but did not extend into the muscular tissue. 3d. A large cylindrical clot, very hard, and of a yellowish red colour, prolonged itself even to the pulmonary artery and its larger divisions, without any adherence to the parietes of the vessels.

This clot perfectly resembled a tree with its trunk and branches. At its base it strongly adhered to that of the septum ventriculorum. There suddenly commenced a certain organization. It was white, homogeneous, and as strongly adherent to the septum as if there were a kind of fusion between the tissue of the clot and the fleshy fibres of the septum. There the internal membrane seemed to have disappeared over a space as large as a crown, and, at the termination of its adherence to the clot, it seemed to have been considerably increased in thickness. It was opaque and white. A little farther on, the serous cellular tissue beneath was the seat of an intense injection. The muscular fibres at the point of their fusion with the clot had undergone a kind of trans-

formation. They were white, and confounded, and altogether homogeneous with the clot.

The fibrinous tree, through its whole extent from about an inch of the point of adherence, was formed of concentric layers.

There was nothing abnormal in the left cavities, except some ecchymoses, and a small quantity of the clot of a yellow colour, without any adherence.

There was nothing remarkable in the abdominal or cranial cavities.

There was no appearance of inflammation of any other lesion in the articulations of the humerus or the hip.

This is a remarkable case of endocarditis. The symptoms observed during life, and the lesions apparent after death, left no doubt with regard to the nature of the disease.

The most remarkable part of this case is the fibrinous clot, which filled the right cavity of the heart and prolonged itself into the divisions of the pulmonary artery. This clot appears to me to have been formed during the life of the animal. In fact, at its point of adherence it offers all the characters of organization. The internal membrane of the heart had there disappeared, and a sudden transformation of substance had occurred.

There can be no doubt that the clot had not all at once acquired the volume which it possessed at the time of death. It was augmented by the successive addition of new layers.

What could have been the cause of this affection? Did there exist in this animal a rheumatic diathesis, as the two successive lamenesses during the progress of the disease would seem to indicate; or, rather, was there an aneurismal state of the heart, which, more than any other viscus, is disposed to inflammation?

These questions are too obscure for me to attempt to offer a solution of them.

In this curious case, one circumstance particularly appears to me to deserve notice; namely, the coincidence of inflammation of the internal membrane of one of the cavities of the heart, with the peculiar articular affections which successively produced these consecutive lamenesses, and were also the probable cause of the animal constantly lying down*. This fact is of considerable importance, connected with the account which M. Bouley, jun. has given of the development of synovial sessamoidean rheumatism, as a consequence of pleurisy, and which that vete-

* M. Delalande, in the number for July 1841, p. 433, gives a singular account of a nearly similar affection of the heart. Too little attention has been paid to the diseases of this viscus.—H. B.

rinary surgeon has been the first to describe, and has described so well.

By the side of these two facts I would place a third, which has been furnished by direct experiment, and which presents a very strong analogy with them.

When an irritating fluid is injected into the sac of the pericardium by means of a puncture on the left side between the cartilages of the sixth and seventh ribs, articular pains manifest themselves in one or more limbs, while inflammation is developed in the serous membrane that envelopes the heart; and, often, these pains are so great, that it is almost impossible for the animal to move. These experiments are not sufficiently complete for me to speak positively as to their results, but I have thought it right to mention them in connexion with M. Mercier's case.

H. B.

Rec. de Med. Vét., Mars 1841.

INVERSION OF THE UTERUS IN A COW—RUPTURE OF IT IN THE EFFORT TO RETURN IT—ULTIMATE CURE.

By M. J. M. Eleout, *M.V., Morlaix.*

On the 4th of May 1830, I was sent for to attend a cow that had just calved, and in whom there was a complete inversion of the uterus. On the preceding evening she had fed as usual, and appeared to be in perfect health. Towards midnight the attention of the cowherd was attracted by the noise which she made in continually lying down and getting up. On procuring a light, he found that she had produced a dead calf, and that there was a complete inversion of the uterus. I was immediately sent for. On entering the stable, I found the cow lying on her litter and the membranes by her side. The uterus was completely everted. The uterine mucous membrane, which was of a deep red colour, was dirtied by resting on the dung and the urine. The whole of the expelled membranes were cold. The cow did not rest for a moment still, but was continually shifting her posture, as if she suffered from colic. Her plaintive lowing was incessant.

I made her get up, and kept her in that position by means of a cloth, the extremities of which were held by assistants. In default of wine, I made a decoction of linseed, with which I

washed the mucous membrane of the uterus, and freed it from the filth which covered it. Cloths were then placed more effectually to support the womb, and I attempted its reduction. I commenced with the left cornu, which I readily returned, holding it by its base, and pushing it with my left hand until it disappeared. I proceeded in the same manner with the right cornu, which was disposed of in a similar manner. There was only a small part that was not returned, when the cow backed upon me with such force that the termination of the right cornu was ruptured, and my hand and arm penetrated into the abdomen. The uterus, finding nothing to resist it, was again expelled.

My first thought was to re-unite the edges of the wound by means of a suture: but after having reflected that the animal was in a state of great debility; that the mucous membrane of the uterus had been too long exposed to the irritating contact of the air; that, by this proceeding, I should strangely lengthen the time of the operation; and that, in somewhat similar cases, many of my brethren had obtained a radical cure by excising a portion of the uterus; I did not hesitate in abandoning the re-union by a suture, and proceeded to a second reduction of the uterus, which was returned into the abdominal cavity without difficulty.

In order to prevent a new escape of the womb, I manufactured a pessary, which I introduced into the vagina. In point of fact, however, it was only a substitute for a pessary;—it consisted of a very light glass tube, which I enveloped in fine lint impregnated with a mucilaginous decoction. This was secured in its place by means of cords acting as a surcingle. The cow was placed in a warm corner of the stable on an inclined plane, the hind quarters being considerably elevated.

She was ordered to be put on a restricted diet of gruel made of barley-meal, in which was dissolved a small portion of nitre, and this was administered several times in the day. Emollient injections were also had recourse to. Quietness was likewise enjoined, and a warm covering of wool.

She did not drink during the whole of the day, but seemed sadly weak and dispirited; I therefore ordered some emollient drinks to be administered by means of a bottle.

5th.—She is as much out of spirits as before—she does not ruminate—all the mucous membranes that are apparent to the view are highly injected—the pulse is full and accelerated—the appetite is quite gone—the loins are bowed—the muzzle dry—the hair staring—and the skin clinging to the bones. The dung is clotty and hard, and the urine of a very deep colour. The

patient has not laid down during the night. Five pounds of blood were detracted from the jugular, and the nitrated mucilaginous drinks were continued. A poultice was applied to the loins, and emollient fumigations to the belly.

6*th.*—No change. The bleeding was repeated and the regimen continued.

7*th.*—She is more cheerful than on the preceding day. She ate, but very slowly, some cabbage-leaves, and drank a little gruel. The pulse was less hard and accelerated—the mucous membranes less red; but the excrement was hard, and the urine red and turbid. Administer emollient drinks in which a diuretic powder has been dissolved.

8*th.*—Still improving—the excrement softer—the urine less highly coloured, the hair smoother, and regaining its natural lustre, but she has not yet ruminated. I withdrew the pessary, and there ran from the vulva a sanious fluid of an infectious smell. I injected some warm water with a little wine into the vagina, and repeated the injections during the day. The same regimen continued.

9*th.*—She still improves, and has begun to ruminate. The urine and excrement are in their natural state, but a sanious fluid continues to run from the vagina.

10*th.*—The sanious fluid is replaced by thick white matter, which has scarcely any smell. The pessary was withdrawn, as were also the lotions and fumigations. She gradually returned to her usual food, and on the 16th was driven into the field with the other cows.

I often had occasion to see her when visiting her owner's farm on other occasions, and she continued to be well.

This case confirms the opinion that has been advanced by several veterinary surgeons, that rupture of the uterus in our female domesticated animals may, occasionally at least, be cured, if a proper treatment is adopted.

Rec. de Méd. Vét., Nov. 1841.

TWO CASES OF THE COINCIDENCE OF ARTICULAR AND TENDINOUS SYNOVITIS WITH INFLAMMATION OF THE PLEURA IN THE HORSE.

By M. Oger, *M. V., 5th Reg. of Chasseurs.*

In page 632 of the 13th volume of our Journal, we introduced an account by M. Bouley of the lameness by which horses that had lately suffered from pleurisy are occasionally attacked. It is

a subject that has not met with due consideration. Our readers will not be displeased if, through the medium of M. Oger's interesting paper, we recall their attention to this interesting branch of veterinary pathology. M. Oger shall speak for himself.

On the 11th of October, 1841, a horse six years old was admitted into the infirmary to be treated for strangles. This disease passed away in a few days, and acute pleuro-pneumonitis succeeded. An antiphlogistic treatment was adopted, and, with some difficulty and loss of time, we succeeded in abating the evil. Then came the period of convalescence, and it was long and troublesome. During six weeks there was inflammation of a special character, varying in intensity, and successively attacking all four feet.

The right fore foot was the first that was attacked. The horse placed it a little forward, and inclined to the right. It was with evident pain that any weight was thrown upon it, and there was above and behind the fetlock a circumscribed tumour. This tumour was hot, and the horse could not bear the least pressure on it; there was not, however, any fever of re-action. If he was forced to move he did it with reluctance and hesitation, and evidently suffering acute pain. When he was compelled to move the suffering limb, he extended it before him, and threw his weight with very great precaution on the posterior part of the foot, as in founder. This rheumatic attack continued three weeks, and then a small soft tumour, producing a little pain in locomotion, was the only trace of disease which remained in that foot.

Scarcely, however, was this synovial affection removed than, all at once, the animal became lame in his hind feet. The pasterns exhibited the same kind of tumour that had appeared in the right fore foot, except that there was not so decisive a demarcation in the swellings. Towards the upper part the tumour was diffused. This attack of both legs continued about fifteen days. It was treated by soothing and cooling applications and with more decided success than in the first case, although the pasterns were left evidently swelled—*bouleté.*

The third attack was on the right fore leg, and that was occupied by the disease eight days. The swelling and pain were the same as in the other fore foot; but as that foot was only imperfectly cured, the animal in his walk had very much the appearance of a horse that was foundered in his fore feet.

The complete cure of this will probably not be effected for a considerable time. I shall carefully watch any change that may take place, and will, at the termination of the case, give a full account of the result.

Case II.—One of our horses was evidently attacked by pleu-

risy. Some days after the disease had been seemingly established, the animal became intensely lame in the left fore foot. At the expiration of three weeks he died of hydrothorax.

Examination after death presented the usual appearances in the chest.

In the feet the serous synovial membrane of the left foot was red and thickened. There were vascular arborizations on the perforans tendon. The synovial capsule which facilitates the motion of the perforans tendon over the little sessamoid bone likewise presented characters of acute inflammation. The fascial fibres which unite the sessamoid bone to that of the foot exhibited considerable redness, and numerous minute points. The articulation of the second phalange with the third presented a curious appearance. The synovial fluid of that articulation was abundant, and of a colour deeper than was natural. The serous fluid was likewise of a deep red; its consistence also was thicker than was natural. This redness and thickening were greatest at the articular margins, and also at the posterior and superior portion of the capsule. There were already formed on this latter part five or six false membranes, adherent, pedunculated, filiform, and of a yellow-grey colour.

Rec. de Méd. Vét., Janv. 25, 1842.

VETERINARY JURISPRUDENCE.

Our readers will not object to the introduction of the two following trials. The first records a successful attempt at plagiarism, that stands alone for its professional ignorance and barefaced impudence. The second describes a singular fracas between two providers of horses, and records a lamentable history of "The Vet."

Moor *v.* Clarke.

This was an action in which the plaintiff sought to recover damages for the alleged piracy of his property in a certain print of a celebrated mare, called "Beeswing," well known in the sporting world. It appeared that the plaintiff, when Beeswing was at the zenith of her fame, in 1834, had gone to great expense in having her portrait taken and which he had had engraved. The mare was represented in the act of racing at full speed, her off

side being presented to the eye, which was relieved by a back ground of trees and hedges, and the piracy complained of was of rather a peculiar character. The defendant is the editor or proprietor of a cheap weekly publication, called "Tom Spring's Life in London;" one of that class of periodicals which, for lack of literary merit, often call in aid the assistance of the arts to enrich their work, and present certain things called "spirited and splendid engravings" to the public. The defendant, acting under this policy, had presented to his subscribers what he termed a splendid portrait, taken from life, of "Coronation, the winner of the last Derby stakes," an animal of equal beauty and fame with Beeswing, but differing from her in the one essential feature of his sex. The engraving of the defendant, which was a woodcut, represented the near side of the horse, that was supposed to be in the act of winning the Derby, there being the grand stand, winning post, betters, swindlers, black legs, *et hoc genus omne*, all depicted true to nature.

The plaintiff, notwithstanding the above material variations between the two prints, alleged that, as far as the animal was concerned, it was a direct copy of his mare, sex and all, only that she was reversed; and he now sought to recover compensation for the injury sustained by him in the sale of his print by the circulation of the defendant's publication.

Several artists were called by the plaintiff, who swore that there was no doubt whatever that the figures of the animal and the rider had been copied, and with so much accuracy, as that the plagiarist had adopted the sex of Beeswing when professing to give a portrait of Coronation.

Mr. Hill addressed the jury for the defendant, ridiculing the notion of this 15s. print being damaged by a woodcut, even if it were ever so outrageous a copy of it. The jury, however, would say whether it was a piracy. There were hardly two things in which the pictures resembled each other. The size of the two animals was totally different, the position of the horse was different, and the scenery about was essentially different, so that it was difficult to say in what the piracy consisted.

Lord Abinger left it to the jury to say whether they thought the print of the defendant was a piratical invasion of the plaintiff's rights in his original picture of Beeswing. To him, indeed, the two seemed very different; but the jury would decide that, as well as the further question as to the amount of damage which they should be induced to think he had sustained by the act of the defendant.

The jury found for the defendant on both grounds.

Anderson *v.* Oldacre.

The action was brought upon the warranty of a horse which proved unsound, and to recover the value of its keep after the unsoundness had been ascertained. The defendant, by his plea, admitted that the horse was unsound at the time of the sale, but denied that he had given any warranty. From the evidence adduced, it appeared that the plaintiff, who is a large horse-dealer in Piccadilly, and who has also a farm for hunters at Old Oak-common, on the Uxbridge-road, had an interview on the 1st of October last with the defendant, who is a saddler in the city, and also occasionally dabbles in horse-dealing, when proposals were made by the defendant to sell the plaintiff three horses which had been brought to the stables at Old Oak-common. One of these horses was called "The Don," and another, "Top-thorn,"—designations intended, it is conjectured, to convey to the minds of the initiated a correct idea of their superior capabilities as hunters. The third, a bay horse, which formed the subject of the present action, according to the evidence presented on the part of the plaintiff, was an anonymous animal; and it was finally left in doubt, upon the whole case, whether it was entitled to rejoice in the appellation of "Rhinoceros," or "The Vet.," which latter name appeared to have been bestowed upon it in consequence of the defendant having purchased it from a Mr. Parker, a veterinary surgeon, residing at Birmingham. The plaintiff, however, declined having any thing to do with "Top-thorn," as the defendant said that he would not warrant him sound, but "The Don" he agreed to purchase for 100 guineas; and the conversation then turned upon the bay horse, or "The Vet.," a fine-looking animal, but very much swollen in his legs. The plaintiff asked, "What can I do with a horse with such legs as these?" to which the defendant replied, that the horse had had a dose of physic, and was out of condition, but that, when he got into condition again, his legs would be "quite fine," adding, "I bought him of Parker, at Birmingham: you know Parker; he warranted him sound to me, and I will warrant him to you." The plaintiff finally agreed to give 100 guineas for "The Vet.," and great care was taken of him. He had no work to do, but regular walking exercise was given him, bandages and hot water were liberally applied, and his legs were hand-rubbed; but they still remained *in statu quo*, and, in fact, more nearly resembled the legs of the pachydermatous animal whose name he was said at one time to have borne, than those of a hunter. Complaints were made to the defendant on the subject, and on

the 17th of November the action was commenced, but the horse was not put up for auction till Monday last, when he was "trotted out" at Tattersall's, and bought in by the plaintiff at 20 guineas, a bargain which, to a superficial observer, might seem rather dear, as the horse was shewn to have thrushes in each foot, and curbs in each hock; and it was also satisfactorily proved that the suspensory ligament of the off fore-leg was permanently thickened, and that he was lame in the near hind-leg; altogether affording, in his own proper carcass, a tolerable catalogue of those ills which flesh—that is, horseflesh—is heir to.

In answer to the case thus set up on the part of the plaintiff, the theory presented by the counsel for the defendant was, that the witness who spoke to the fact of the warranty having been given must have been mistaken, as it was altogether most improbable that a person like the plaintiff, well skilled in horses, could have asked for a warranty with a horse so palpably unsound at the time of the sale as "The Vet." The witnesses, however, who were called to support this view of the case fell short of the mark; and the Lord Chief Justice, stopping Mr. Serjeant Bompas in his reply, directed the jury to find for the plaintiff upon the warranty, giving also such a sum for the keep of the horse as they thought reasonable.

The jury, after a quarter of an hour's deliberation, returned a verdict for the plaintiff, with £65 damages.

THE DONCASTER COW CLUB.

It often falls within our province to have to notice the proceedings of societies whose object is mutual protection during seasons of calamity; and of those which refer to the interests of the industrious classes, the societies named "Cow Clubs," whose principle is to defray to a member the loss he sustains from the death of his cow, are highly deserving especial record. They are established in several of our villages, and our banks or the savings bank often perform the duties of a treasurer. The establishment of the "Doncaster Cow Club" has effected highly beneficial results. It comprises ninety members, who for each insured cow pay 4s. per annum. When a member's cow dies, three-fourths of the value of it are awarded to the owner by the club, which from April to June of the last year, paid as much for such purposes as £88 9s. 10d.

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ON EPIZOOTIC DISEASES.

By Mr. YOUATT.

[Continued from p. 169.]

TWO hundred years now pass without the record of any extraordinary mortality; when mention is made of an epidemic in A.D. 570, which destroyed almost all the horned cattle in France and Italy. Eleven years afterwards it appeared with new and increased violence, and, according to Gregory of Tours, would have annihilated the whole breed of cattle, had it not been for the preservative influence emanating from the shrine of St. Martin. A portion of the oil from the lamps which burned before the shrine of this saint was administered to the biped and the quadruped patients. Some of this oil was also used externally. It lubricated the various passages—it calmed the pain which the patient suffered—it softened the tumours that appeared on various parts, and disposed them to suppurate—it corrected the virus which was accumulated within and irritating the intestinal passages—and the lees or sediment of it was also spread over the pastures to purify and preserve them. The first words of the prayer made use of on this occasion—"Mihi beate Martine"—are not forgotten at the present day. The protection of St. Martin having been thus invoked, another ceremony was performed with great solemnity. A red-hot key, belonging to the Church of St. Martin, was applied to the foreheads of the sound and the diseased horses and cattle, and the first were preserved from contagion, and the latter rescued from impending death. This superstition is still prevalent in many countries, and particularly in the south of France, as a remedy for the turnsick in sheep.

Ten years after this, another epidemic prevailed in the south of France, which spared neither man nor beast. Not only the oxen and sheep were destroyed, but even the deer in the parks were

swept away. It seemed to be principally an affection of the head—a wandering and wildness which soon terminated in effusion on the brain. It followed a season of more than usual drought. This was said to be connected with the agency of pestilential vapours, produced by the frequency of earthquakes in various parts of the globe, and from the depths of which some vapours had escaped, not cognizable to the senses, but destructive of life.

Professor Sewell, of the Royal Veterinary College, has expressed the same opinion, and has attributed the late epidemics to some strange convulsion of nature, some extraordinary extrication of mephitic vapours from the bowels of the earth. There appears to be no reason for this. In no one case in ancient or modern times has it been proved that these epidemics have been preceded or accompanied by any of these terrestrial commotions, although there can be no doubt that some destructive atmospheric influence is the grand, or the sole cause, of these diseases. Atmospheric influence these destructive maladies are, evidently, connected with. It is the main agent in the rise and progress of epidemic disease, and honoured will he be who can trace and destroy this connexion. It would be a triumph worthy of a life of industry to accomplish.

Little now occurs worthy of notice until the year 801, and at the commencement of the reign of Charlemagne, when an epidemic disease devastated a great part of his dominions. This was attributed to the villainy of the Duke of Benevento, who was said to have employed a great many persons in scattering an enchanted powder over the fields, which destroyed both the cattle and the food of the cattle. M. Paulet seems inclined to give full credence to this, and says that history offers many proofs of this destructive and diabolical practice. He affirms that many persons were punished in Germany, France, and particularly at Toulouse, for the commission of this crime. Several of the suspected agents of these atrocities were put to the torture, and made full confession of their crime.

Of the occurrence of this disease, from the year 810 to 1316—an interval of mental darkness, and of horrors and calamities of every kind—history records twenty cases, more or less destructive, and extending, with greater or less devastation, over France and Germany, Italy and England. Of these twenty, four date their origin from an excessive degree of moisture in the air, accompanied by almost continual rains, and flooding of the country to a considerable extent. One was supposed to be the consequence of long-continued drought and excessive heat; one was traced to the influence of an eclipse of the sun; another to a comet; and a

fourth to a most unusual stormy winter. The reader will have the kindness to remember, that we are here expressing the opinion of the writers of the day, and by no means our own belief of the matter.

Of the four which trace their origin to extreme wet and its consequences, the first occurred in France, in 820, after a long continuance of rain, and it was equally fatal to men and cattle. The second, which was equally fatal to both, appeared in Lorraine, in 889. The third broke out among the cavalry of the army of Arnoul, in its passage over the Alps, on its return to Italy. The fourth pervaded the whole of England in 1125, and was equally fatal to the biped and the quadruped.

That which followed excessive heat and drought was generally prevalent throughout Europe, but especially so in Germany. It attacked oxen, sheep, and pigs. It appeared in 994, and lasted six months.

The one which was attributed to the comet, and which principally attacked cattle, appeared in France in 943. Almost every animal perished.

Another that was supposed to be connected with an eclipse of the sun was prevalent through the greater part of Germany, among men and animals, in 989.

The disease which was the consequence of a cold and boisterous winter was principally prevalent in France in 887, and committed sad ravages among the herds of cattle and sheep.

Of the twelve others, of which authors do not indicate the cause, the first was in France in 810, and principally among cattle.

The second was also in France, in 850, and almost depopulated the country so far as cattle were concerned.

The third, in 868, was common to all animals in France.

The fourth, in 870, was in the same country, and caused severe loss among cattle.

The fifth prevailed on the Rhine and in Germany, and destroyed an almost incalculable number of cattle.

The sixth attacked the horses of the army of Arnoul, in Lorraine, in 888.

The seventh, in 940, destroyed a vast number of cattle in France, Italy, and Germany.

The eighth and ninth were in France, in 941 and 942, and almost all the cattle in the country perished.

The tenth pestilence broke out in England in the year 1041, and frightful was its devastation among all animals, and particularly horned cattle.

The eleventh also devastated our country in 1103, and the ravages were dreadful.

The 12th was chiefly fatal in Germany, and particularly in Gueldres. It was most prevalent in 1149.

These twenty pestilences occurred in the space of 506 years. Five or six of them were most prevalent among cattle; two were almost confined to horses; twelve included, to a greater or less degree, almost every species of quadruped; and four extended to the human being. Among these the ravages of eight were most destructive in France, as many in Germany, and four in Italy and England*.

From this hasty sketch of the epidemics of early times, we may be disposed to conclude—and we should not be very wrong in our conjecture if we had time and space to pursue our inquiries—that Germany and France are more subject to epizootic diseases than the other countries of Europe; and it will appear hereafter, when we are able to have recourse to the proper historical records, that this pestilence has been more prevalent in Germany than in France.

So far as we have hitherto proceeded, it will also appear that cattle are more subject to these diseases than any other species of domesticated animals, and that the pestilence is always most fearful among them. It is also evident that the maladies which proceed from cold or humidity are more frequent in the temperate and southern parts of Europe than those which depend upon drought, or almost any other cause.

It might likewise be observed—if we had time and space—that almost all the epizootics of cattle and sheep proceed from the eastern regions of Europe, and that they are, comparatively, of short duration there, because the pestilence sweeps every thing before it. Pliny, in his "Natural History," gives some very striking illustrations of this.

The malady lingers in different countries in proportion to its want of power to accomplish at once all its devastations.

After this time there are few satisfactory accounts of these diseases for more than five centuries. We only know, that, occasionally suspending their ravages, or, rather, visiting new districts when they had ceased to desolate others, they continued to be objects of terror, and instruments of devastation, even unto the present day; and it is only within a few years that they have been really understood, and have become, to a certain degree, manageable.

* We again refer our readers to that most valuable work by M. Paulet, "Recherches Historiques et Physiques sur les Maladies Epizootiques."

Before, however, we commence the history of it in our own country, a slight sketch of the recent opinions and practice of some of our neighbours may not be unuseful. We commence with cattle, the most frequent victims of this disease.

Considerations on the Typhoid Epizootic among Cattle which prevailed in France in 1814. *By* M. L. Grognier.

About the middle of April 1814, a serious epizootic broke out in Ville Franche, in the department of the Rhone. Four cows died, evidently of the same disease. They seemed to be simultaneously attacked after they had eaten of the remains of the fodder which had been given to a herd of Austrian cattle that had traversed that road. M. Boin, a veterinary surgeon, recognized in this disease a bilious inflammatory fever, in the highest degree contagious, and setting all medical treatment at defiance.

Without characterizing the malady otherwise than by the general term of an epizootic, M. Rativet, V.S. at Anse, had witnessed the condition of the cattle as they passed.

M. Gayot, V.S., informed me that, although situated on the high road, his commune had been exempted from the disease; for every proprietor on the road, alarmed by the reports that had reached him of the danger, had closed his stables. In one village, however, a farmer lost the whole of his cattle from having permitted two of these animals to rest for a few days on his premises.

A farmer at Amas lost twenty-two cows out of twenty-seven, in consequence of his having opened his cow-house to these animals as they passed.

The epizootic penetrated into Marancé in the following manner:—A man of the name of Pomerel bought at Anse some rags to fumigate his vines. They consisted of pieces of coverlets. They were drawn home by two cows attached to a cart. The rags were deposited under a waggon-house by which his cattle passed in their way to and from the pasturage. They appeared to scent the heap of rags, lowing and running backward, as if they were afraid to pass. A few days afterwards, all his cows, including those which had drawn the cart, were seized with the epidemic, and died.

M. Privat, a cattle-merchant at Oulins, received into his house some of the butchers of the Austrian army. While they were there they slaughtered an Hungarian ox, and left the skin in a corner of the stable. He had at that time five healthy cows, but

they were all destroyed by the epizootic in six days. At the time when, in conformity with the orders of the administration, I inspected the markets of Ville Franche, four oxen that had been concealed from inspection were brought to the premises of M. Damiron. Two days afterwards, the only two cows that M. Damiron had previously possessed became ill, and, in process of time, died. M. Collet, veterinary surgeon at Savigny, informed me that some Hungarian cattle were turned into one of the fields of the Mayor. All his cattle which, on the departure of the others, occupied the same fields, were infected with the disease, and every one of them died.

M. Tonnerieux, veterinary surgeon at Givors, attended many cattle that were attacked by the disease; and he affirmed that, generally speaking, they became ill, one after the other, in the order of proximity to the door in which they stood in the stable.

After being possessed of these facts and many others, I could not deny that the epizootic which prevailed was "*highly contagious*" among cattle.

Two facts proved that it was not entirely limited to cattle. A large dog, four years old, drank some of the milk of a cow labouring under this disease. He was soon afterwards attacked by a fetid dysentery which lasted eight days: he, however, ultimately recovered.

A horse ate a small bundle of hay that had been refused by some of the Hungarian cattle, and contaminated by their saliva. The horse soon exhibited symptoms of typhoid disease, and died. On opening him, very great gastro-intestinal inflammation presented itself.

No fact, however, has proved the transmission of the poison to the human being. I have known several veterinary surgeons who were wounded in opening cattle labouring under this disease; but I have not seen or heard of any inconvenience resulting from it beyond that of a simple wound.

On the other hand, I have known or heard of numerous examples of the fatal consequence resulting from the inoculation of the human being by matter discharged under the *inflammatory* contagious diseases of cattle. This is not one of the least differences by which these diseases are distinguished from each other.

It has been asked, whether it is prudent to eat the flesh of animals that are labouring under or have died of this disease. The troops of the enemy, before they reached our unhappy country, ate with impunity the flesh of such of their cattle as were affected with typhus. They did so with impunity in the districts that were most devastated by the diseases which they introduced.

Even their sick used this food when they were laid up in the hospital. Our people did not scruple after this to have recourse to it, and they did so with impunity. It was cheap enough, for they purchased it at two sous per pound. I ate it myself many times, and without inconvenience. It was as good as the meat from the inferior joints of cattle. I generally had it stewed. The *bouillon* acquired somewhat of the taste of fat pork, and did not yield that rich odour which good meat thus treated acquires.

That this food is not of a good quality, that it may injure weak and sickly individuals, and that it, consequently, ought to be excluded from the market, is perfectly true; but that it is essentially unwholesome, and, more especially, that it can introduce a tendency to typhus in those who eat it, I cannot believe.

Was it the Austrian, or, more properly, the Hungarian cattle that, in 1814, introduced this disease into France? or was this malady the inevitable consequence of the excessive fatigue, the multiplied excesses, the insufficient and unwholesome food, the inevitable crowding into small and ill-ventilated places, and other causes of disease inseparable from the movements of large armies? This is a question which, at present, I will not undertake to resolve; but Buneva was so convinced of the origin of the malady, that he called it "the Hungarian epizootic." Huzard maintained that it had the same origin: but he accounted for it in a singular way. It does not, according to him, exist in Hungary; but the cattle of that country, from which the supply for the troops was almost entirely composed, contracted it in their route, in consequence of the numerous sources of insalubrity to which they were exposed, and, once being infected, they communicated the disease with frightful rapidity.

My attention was, of course, much occupied in comparing the various modes of treatment adopted in order to restrain the ravages of this disease, for it was an evident fact that not more than one out of ten attacked by the disease survived. The result was the same whether I had recourse to bleeding or tonics, acids, mucilages, or cordials.

Many recipes were much in vogue, and, with some difficulty, I obtained an account of the composition of several of them. At the head of them, was one introduced by the Viscount de Bussy, and which he had seen a thousand times used successfully in Germany, even when the animal was so reduced that all hope of recovery was abandoned. It was as follows:—"Take of yeast one ounce, and of ordinary beer a quart. Give half a pint of this three times in twenty-four hours, diminishing the dose as the animal gets better." A half-pint of ale with a little yeast, or a cup of coffee, or a cup of water, would have done as much good.

Another empiric added a quart of vinegar to ten quarts of barley-water. A quart of this harmless mixture was ordered to be given every two hours. This was certainly an improvement on the prescription of the Viscount, but both of them would be perfectly useless. They were much of the same character with the six grains of emetic tartar ordered for each beast in the epizootic of 1757 by Surgeon Chaignebrun—or the theriaca of Dr. Dufot—or the nitre and lily of the valley of Hartman. These medicines must be truly ridiculous and powerless when given in such minute doses. If a cure is ever effected apparently by these nostrums, it must in reality be accomplished by the efforts of nature.

I should with more hope of success have recourse to the *quinine;* but in what dose should it be administered? Twenty times as much as is given to the human being. Half a drachm or a drachm should be administered twice in the day, and its efficacy assisted by those useful adjuncts gentian and ginger. Some have recommended the chestnut, the willow, the tamarind, and the gentian; but, with the exception of the last, they are comparatively worthless, and the gentian is a mere adjuvant to the quinine.

After all, the remedy for a disease does not consist in the administration of any particular drug, but in the general mode of treatment. This must be directed by a person of real talent and skill, who can detect every change, and avail himself of every indication. There never will exist a sufficient number of veterinary surgeons thus to treat methodically and carefully one of these contagions, coming upon us like a vast and rapid inundation, and spreading itself suddenly over whole districts. When an expanse of country is infected—when every village and every stable is filled with patients, where shall be found sufficient power to grapple with the evil? The veterinary surgeon hastens through the infected villages and hamlets. As he pursues his rapid course, he prescribes the medicine that is to be given and the course that is to be pursued, and on he hurries to other patients. The owner of the diseased cattle—does he faithfully obey the directions that have been given, or does he clumsily blunder through them; or does he employ them not merely on the case in hand, but on many other ailments, real or suspected, of other animals, for when the epizootic rages, every little illness is supposed to be connected with it, or caused by it. Is the same specific applied to founder or to apoplexy; and, failing with regard to them, does the owner immediately apply to "the cunning man?"

The public authorities interfere. Are not they endeavouring to repress a contagion the controul of which is beyond their

power? Their task is a laborious one—it is expensive—it cripples the commerce of the country—it interferes with agriculture—it is injurious to a multitude of individual interests—it is difficult to establish, and that difficulty increases in proportion to the false notions that prevail of the nature and treatment of the epidemic. The very interference of the veterinary surgeon is often an evil. One animal in the process of treatment may infect a whole stable. While the attention of the veterinarian is engrossed by a certain number of patients, a whole community may be empoisoned, and the medical man himself may be the very vehicle of the infection. The pest may be diffused more rapidly than the antidote. Many may be cured, but a great many more will succumb before the remedy can arrive. "All other things being equal," says M. de Berg, "it is in the country which is best supplied with veterinary aid that the progress of the disease is most rapid. The reason is simple. The surgeon often enters an infected cow-house without his being at all aware of it. The contagious malady has not yet displayed its usual and fatal symptoms. He attends to the case before him, and then he goes to assist an animal suffering from difficult parturition, or labouring under some of the numerous diseases to which neat cattle are subject, and he, unaware of the mischief, carries with him the contagion, and spreads the evil far and wide. He carries the poison in every thing that he has about him, and especially in the woollen clothes that he wears."

The infected animals are likewise capable of communicating the disease before there is any thing about them by which its presence is indicated. How often has the passage of one infected beast through a certain district spread the disease far and wide! The poison is conveyed by the hair with which they are covered, the effluvia from their evacuations, and the emanations from the pores of the skin.

Here, then, is a noble labour if it can be accomplished—that which is most important of all in the treatment of this disease—that which, if fully accomplished, would immortalize the labourer, —*the neutralization of the miasmata that corrupt the atmosphere.*

Can this be accomplished by the agency of the oxygenated muriatic acid? I have seen many oxen die when surrounded by chlorine gas, and I have likewise had forced upon me the certainty that the cow-house remained as fully infected as at first, although twenty disinfectant fumigations had been applied.

M. Vicq d' Azyr, who was charged by the Government with the task of reporting on the epidemic in 1776, instituted a variety of experiments with regard to inoculation with the contagious matter. "I have dipped," says he, "pledgets that have been

covered with the contagious matter into various oils and aromatic ointments; I have exposed them to the action of volatile sulphuric acid (the acidum sulphuricum aromaticum, or elixir of vitriol,—Y.), to muriatic acid, and to volatile alkali, and yet the epizootic was easily communicated. Its attack was only retarded in animals in whose integument were inserted pledgets moistened with volatile alkali. The result of our experiments was, that among all the chemical appliances the preparations of ammonia were most to be depended upon. It was doubtful whether the chloride of lime was so efficacious, and whether it could be really made to penetrate into some of the deepest and fully charged receptacles of the poison.

Have we any means of thoroughly purifying an infected stable? or are we sometimes compelled, as is done in Switzerland and Germany, to raze to the ground the buildings that have been contaminated by the poison? I am unwilling to advise the extreme measure, but I will mention one fact. There was a stable at Saint-Laurent de Chemaisset, which for many years, and notwithstanding innumerable fumigations, and although the walls had been white-washed several times, and the mangers and the racks had been scraped, and the beams had been planed, and the pavement had been renewed, and every utensil was carefully scoured, was a continued source of infection, until the cattle were removed, and it was employed for another purpose.

A similar object is not always easy to be accomplished, and sometimes it is impossible. I have, then, confined myself to the recommendation of two general modes of disinfection largely employed by Nature;—I allude to water and to fire. They may be combined, and they should be, in order that their purpose may be effectually accomplished. Considerable quantities of boiling water should be brought into the cow-house, in which the clothes and all the utensils should be plunged. All the metal utensils should be subjected to a red heat; every portion of dung should be taken away, and buried or burned; all the nooks and corners should be cleaned out with the most scrupulous care; the pavement should be dug up; the walls scraped, and boiling water plentifully employed in the situations which the infected animals occupied. After the reiterated employment of these means, the cow-house should be filled, and kept so for a while, with disinfectant gas. It should, however, be fairly understood, that these fumigations are mere accessories, and that, in such serious circumstances, they must never be considered as a sovereign preventive, rendering other means unnecessary, but as merely constituting an auxiliary measure. The mechanical purification of the place, and the repeated application of boiling water, are

measures truly indispensable. "Although," say Vicq d'Azyr, speaking of the fumigations that were beginning to be introduced, "we ought, when we have the opportunity, to employ this measure, we may, nevertheless, content ourselves with other proceedings, especially if they are performed carefully and to their full extent." The practitioner needs not to be ashamed when he is thus employed; for next, or equal, to the rescuing from destruction those that are already attacked, is the preservation of the remainder of the dairy. He will have enough to do in the early recognition of the epizootic disease; its origin—its progress—its fearful modes of propagation—its character—the probable time of its continuance—the method of distinguishing it from other diseases with which it may be confounded—the means of cure—the preventive measures which it may be necessary to adopt, and which absolute necessity can alone justify—here will be sufficient room for the display of talent and the exercise of sound discretion.

Among these measures, the most efficacious and the most imperative will occasionally be the sacrifice, I will not say of the disease only, nor of those that are suspected, but of others that, to the inexperienced eye, continue to exhibit symptoms of health. Who can better determine the cases in which the disease will be almost necessarily fatal from those in which there is yet hope, than the veterinary surgeon? Who will be able earliest to recognize the changing character of the disease and to seize the opportunities when decisive measures must be adopted, or nature left to itself?

Who, if I may be permitted to draw such a comparison, when an immense conflagration has broken out, and the play of the pumps has become powerless and the flames are increasing every moment, will not regard with admiration those who are actively employed in cutting off all communication with the neighbouring buildings, and removing every combustible matter, and sacrificing every thing that would tend to increase the violence of the flames? Such is the duty of the veterinary surgeon. It is an arduous but an honourable one.

In another communication we shall resume the subject.

[This paper is introduced, not because we agree with every part of it, as will hereafter appear, but as containing an interesting summary of the opinions and practice of our continental neighbours. The subject will be continued in our next number. —Y.]

DISEASE OF THE LACHRYMAL PASSAGES*.

By Mr. William Percivall, *M.R.C.S., Veterinary Surgeon First Life Guards.*

The malady familiarly known as "a watery eye," only now and then occurs in horses. I may have met with some half-a-dozen cases of it in my time; some or all of which might have been, in days gone by, called *fistula lachrymalis:* an appellation which surgeons, better informed, of the present day, properly confine to a form or stage of the disease that I cannot say I ever had occasion to treat in my own practice. The lachrymal apparatus in animals is little subject to be out of repair. Its comparative simplicity, the larger size of the passages and apertures, and the little irregularity which happens in the lachrymal secretion, may serve to account for this.

In horses there seem to be three causes from which the tears, instead of pursuing their natural course, may overflow the under eyelid and trickle down the face. One is, an increase or superabundance of secretion; and this may arise either from some external cause of irritation, or—what is commonly the case—from the presence of conjunctival inflammation: hence the escape of tears down the face becomes one of the symptoms of ophthalmia. A second cause is, tumefaction of the eyelids, occasioning diminution of the *puncta lachrymalia,* as well as, perhaps, interfering somewhat with the regular course of the tears into them. A third, and the grand cause,—it being the one we are to regard as constituting the disease of which watery eye is the sole or especial symptom,—is obstruction in the lachrymal passages. The nature of this obstruction—so far as our operations to relieve it have enabled us to judge of it—appears to be similar to what constitutes a stricture in the urethra in man; viz. a thickening of the lining membrane in some parts of the passages, in consequence, as it would seem, of some prior or existing inflammation. That this membrane, which is of the mucous class, appearing indeed to be a continuation of the conjunctiva, is not infrequently inflamed, in its course through the *puncta* at least, we may adduce as evidence the globule of mucus so commonly seen lodging upon the *puncta* in catarrhal and other inflammations about the head; and if so often inflamed in the *puncta,* no doubt, on occasions, it becomes so through its whole course. The common seat of obstruction—so far as our

* Mr. Percivall's "Lectures on Horses" will be continued in the next Number of The Veterinarian.

very limited observations warrant an opinion—appears to be the superior part of the *ductus ad nasum;* or it may, according to D'Arboval, be the *lachrymal sac**. "In the first part of its course"—I cite from my 'Anatomy of the Horse'—"the duct diminishes a little in its caliber; from about the middle, however, it begins to enlarge again, and soon after acquires its former diameter." This will account for the usual seat of obstruction. What the nature of the obstruction is—whether it consists in some tumefaction, partial or general, of the lining membrane, or arises from the effusion of lymph into the passages, or whether it is the effect, simply, of concretion and lodgment of secretion, natural or altered in condition, it may not be in our power precisely to determine, although a pretty conclusive inference may generally be drawn from due consideration of the circumstances of the case: let it, however, be which it may of these three, it will not materially alter our views of treatment; which, as far as my own practice has gone, will probably be best elucidated by the following detail:—

An aged cream-coloured Hanoverian horse, that had in his younger and better days been honourably employed in drawing the king's state carriage, was brought to me for being troubled with watery eyes, producing ophthalmic irritation, and tumidity and soreness of the conjunctival membrane, with nebulous opacity of the cornea, and intolerance of light to such a degree that the eyes, especially one, were all but closed. Another ill consequence of this overflow of the tears out of their natural channel was, destruction of the hair and excoriation and soreness of the cheek below the eye. This horse had—the same as all his peculiar breed have—eyes of the Albino description: whether such eyes manifest any particular susceptibility to disorder of this kind I cannot say.

Aug. 4th, 1841.—Having provided myself with three wax bougies of the smallest size made use of by surgeons, I had the horse cast, and his head extended and placed in a convenient position for operation upon the eye. An assistant firmly maintained the eyelids apart, while I, choosing the inferior puncture—it being the larger and having the more direct passage—for operation, readily introduced into it a bougie; but had pushed it no farther than into the lachrymal sac before it bent and became useless. Withdrawing this, I passed a second bougie, which, by dexterous manipulation and some force, I succeeded

* "English veterinarians have denied the existence of this sac: the best argument I can offer of its presence is *dissection*—the same that has convinced myself." For this, and further information on the subject, consult my "Anatomy of the Horse," at page 374.

in insinuating into the duct, through which it readily passed onward to the extent of seven inches; then, on further force being used, it bent, as the first had done, and was in consequence withdrawn. The act of withdrawal I found to require more force than the introduction, in consequence of the cohesion between the membrane and bougie, arising from the latter having become softened; and the result was that, just as the operation was concluded, about one-eighth of an inch of the end of the bougie broke off and remained within the puncture: however, it easily became extracted with a pair of dissecting forceps. Still, such an accident, which might have proved serious, was enough to make me resolve in my mind not again to use the common bougie, but to have a whalebone probe manufactured for the purpose. For this time, therefore, I released my patient.

5th.—The eye shews a slight inflammatory appearance from what was done yesterday; but the flow of tears over the face is diminished, leading me to believe that the bougie has done some good. At the exit of the duct within the nostril there is a little coagulum resting.

6th.—Tears still running over the cheek, and, having provided myself with a whalebone probe of sufficient length—thirteen inches—and the requisite size, I determined, this morning, to renew my attempts to permeate the duct. I also had, this time, by me, a pewter syringe, with a nozzle sufficiently pointed and fine to enter the puncta. I first introduced the whalebone probe, as on a former occasion I had the bougie, which passed readily enough into the lachrymal sac, but required withdrawing for a little way, and variously manipulating before I could get it to enter the duct. Presently it did so, and then with slight force was easily pushed onward to the extent of eight inches: here it stopped, and no pressure safe to be used could force it further. It had, in fact, reached the tortuous part of the canal, through the curvatures of which I was not able to make it pass: I therefore withdrew it. I next tried what effect syringing the puncta would have: the warm water was readily injected into the sac, which instantly became distended; but, instead of flowing onward into the duct, all of it regurgitated into the eye. Now I thought I would apply the syringe to the aperture of the duct within the nose; first, however, passing up the probe. The probe could not be pushed up further than about two inches; stopping, as it had done before, at the part where the canal grows tortuous. The injected water, however, found passage and exit through the puncta, flowing out in a continuous stream over the eye. I served the opposite eye in the same manner, succeeding equally well, and then suffered my patient once more to

rise. This time I felt satisfied with my operations: I now entertained no doubt I should make a cure of the watery eyes. After the operation, I had the eyes fomented daily, and ordered some cathartic medicine.

11*th.*—Both eyes looking much better: not half the quantity of tears as formerly flow the wrong way. Slight conjunctival inflammation.

15*th.*—Very little watering over the face; the eyes looking greatly improved; neither inflamed, nor as much as before intolerant of light.

20*th.*—The amendment has been uninterruptedly progressive. The tears now flow the proper way: the horse is cured of his "watery eyes."

I have thought, since the occurrence of the above, that the catgut bougies employed in surgical practice would prove just the thing for a case of this kind; and might possibly, were it necessary, be insinuated through the curvatures of the canal. But, may we not succeed in curing such cases as this by syringing alone? I think we shall find we may. If not, then comes the question about the kind and use of the bougie.

A SINGULAR CASE OF SUFFOCATION IN A HORSE.

By Mr. B. Nicholson, *Womersley, Yorkshire.*

I have been a reader, gentlemen, of your excellent periodical from its commencement. At the close of the last session, I did fear a little that you might have been induced to abandon the post which you have so long occupied with honour to yourselves, and advantage to your profession: but you are still there. There I am convinced you will remain while your lives are spared, and long may that be!

Presuming on the privilege of an old subscriber, I am induced to send you a case, not an absolutely novel one, but of rare occurrence and considerable interest. Out of a very great number of cases of the present epidemic that have come under my care it stands alone, and I feel it my duty to put it on record in your excellent journal.

A valuable horse, the property of G. H. Beard, Esq. of Roal, was labouring under all the symptoms of the prevailing epidemic. It had low fever—cough—sore throat—inflammation of the submaxillary glands, and the adjacent tissues—the pulse scarcely

perceptible—the coat staring—no appetite, and very defective respiration.

By the mingling and alternation of febrifuge and tonic medicines these symptoms gradually disappeared, and the horse returned to his work in the threshing machine. Not being able, however, to do his full share of the labour, he was taken again from the machine, and no labour exacted from him. Two days afterwards I was sent for in great haste, the messenger telling me that he was swollen all over. On my arrival I found this to be the case. I did not hesitate to express my surprise and regret that he should have been so soon put to work. The owner replied, that, so many of his horses were labouring under the same complaint, he was compelled to put some of them to work, and this one seeming to be the most recovered and in the best spirits, the lot fell upon him.

I do assure you that I was surprised and grieved to find him in such a condition, and so soon after he had been dismissed from the hospital as perfectly recovered. The œdema was so great in all four extremities that the poor creature could scarcely move, and when he attempted it, he was ready to fall every moment.

All this, however, yielded to treatment, and in about ten days he was again apparently convalescent. This was on Monday the 14th of February.

On the two following days his appetite was good, and I thought that all danger was past. I was considerably engaged on the 17th and 18th, but on the 19th I determined that I would go and see my old patient.

As I entered the yard, I met Mr. Beard jun. "Ah, neighbour," said he, "here's a bad job—it is all up with the poor horse; he is all but dead." I hastily entered the stable, and found the intelligence too true.

I could not help saying, that "I was surprised that they had not sent to me." "Why, it was impossible," was the reply, "to let you know before we knew any thing about it ourselves. All this commenced not an hour ago, and we thought it useless to send for you, for he would be dead enough long before you could arrive."

He was labouring under suffocation, and was, apparently, at his last gasp. He would have died had I not have luckily dropped in at the critical moment.

I had immediate recourse to tracheotomy. I dissected away the integument and muscle—excised a portion of the trachea, about an inch square, and inserted the tracheotomy tube, which I always carry with me. The horse immediately jumped up, and, to the astonishment of those around, breathed with comparative ease.

In the interval between the 16th and 19th the submaxillary

glands and the surrounding parts had rapidly and enormously enlarged. I could not, however, detect any spot where there was decided fluctuation; I was therefore compelled to have recourse to the strongest vesicatory applications, and it was not until the 24th that the abscess was opened. The quantity of pus that was discharged was almost incredible; the impeded respiration was, to a considerable extent, immediately restored, and the horse began to eat a little bran mash.

The tube was in due time extracted, the parts brought together, and the wound healed; and the horse is now at regular work. I saw him a few days ago, and he seemed to be as well as ever.

ON THE BURUSAUTTEE.

By CHARLES JACKSON, *Esq., V.S. 8th Regiment of Light Cavalry.*

IN THE VETERINARIAN for September 1841, which I received last month, Mr. Hoey, of the East India Company's service, regrets that you have so few Indian correspondents. I regret it too; but do not much wonder at it, because it is expensive work sending letters home, and the length of time that must elapse before we can see our letters in print damps our zeal. In addition to this, many of the diseases to which the horse is liable here are not known at home, and, consequently, any detailed history of them would be interesting to only a few. On this last point, however, I may be mistaken; for until Mr. W. C. Spooner's description of "melanosis" appeared in your Journal, I thought that it was a disease peculiar to India; and perhaps other diseases, now thought to be so, may, on farther inquiry, turn out to differ only in name from diseases well known in England. I purpose, therefore, sending you from time to time a few lines on the diseases to which the horse is liable in India, which you may publish in THE VETERINARIAN, or throw behind the fire, as your judgment or convenience may dictate.

One of the most troublesome diseases to which the horse is liable here is "burusauttee;" not the "burusauttee" of which Mr. Armstrong gave a description before the Veterinary Medical Association on the 26th June, 1838 (vide Proceedings of the Veterinary Medical Association for 1838, page 233), for the disease he describes under the name of bursattee I never saw or heard of before. "Burusauttee," in the South of India, is a very different

affair: it is, in fact, "fungus hæmatodes," differing somewhat from that disease in the human subject, but still bearing a sufficient resemblance, I think, to warrant me in concluding that it is of the same nature.

It consists of a scirrhous tubercle, situated at one or more parts of the body, in the cellular membrane immediately beneath the skin—its base not well defined, but spreading among the healthy cellular membrane—its substance almost cartilaginous, containing a cheesy matter deposited in cells, and its surface ulcerated. If left alone, and particularly if the horse is reduced by bleeding and physicking, a cyst will form in the centre, and burst, and discharge a quantity of dark-coloured serum, evidently containing bile and staining the hair where it runs down. After the cyst has burst, the granulations will sprout out very rapidly, from the surface of which large quantities of dark-coloured serum is constantly pouring, mixed with some of the cheesy matter beforementioned, and stinking most horribly. The horse becomes languid, and would probably eventually die from the effects of the disease; but I have never seen a case end fatally. The troop horses affected with this disease are generally cast before it comes to that.

The cause of this disease is evidently constitutional, and the treatment I have found answer best is as follows:—

Let the horse be well fed, well groomed, and have regular exercise. Give cantharides internally; cut the diseased part out, taking care to let no portion of it remain, and dress the parts as simple wounds. They are often, however, a long time healing. In such cases I have found a little blister ointment rubbed over the sores very useful, and, lately, the ointment of the biniodide of mercury more so. Wishing success to THE VETERINARIAN, and that the exclusives may soon come to their senses,

I remain, &c.

Your's truly.

Trichinopoly, 18th Feb. 1842.

THE VETERINARY ART IN INDIA.

By J. GRELLIER, *Esq.*, *M.R.C.S.*

[Continued from page 177.]

WE pass over many interesting remarks by the author on the daily exhaustion and accumulation of excitability in animals. They refer to a system of physiology now passing or passed away,

and are illustrated more by reference to the human frame than that of our patients, with the exception of those that are torpid in winter, and with them we have little to do.

With regard to the horse, and most other animals, he observes that the season when diseases of accumulation prevail is the cold and rainy, or, perhaps, still more on the first return of heat, as the accumulation may be then too great, or the return of stimulus too sudden, which causes colds, fever, inflammation of the lungs and eyes and membrane of the nose, throat, &c., that are very much experienced in Europe, where these diseases (particularly in spring) prevail. I have also observed them in the ceded districts, when the mornings have been very cold and the mid-day sun very hot. The horses have then been very subject to colds in the head, attended with a discharge at the nose, and inflammation of its membrane, swelled glands, &c. These diseases are generally relieved by taking from the system three or four quarts of blood, and clothing the animal warmly at night. This latter measure prevents the animal from feeling those sudden transitions of heat and cold which frequently induce disease. This is particularly experienced in England in what is termed catching cold, which is generally occasioned by exposure to cold or wet, and then suddenly exchanging it for warmth.

It is, I believe, the sudden change in the temperature which generally produces fever. In England, fever in the horse is frequently so violent that it inflames the lungs in a few hours, and thus destroys the animal. In this country, the fever which I have generally observed, and which is very common in the ceded districts, is different from the inflammatory kind. The animal in this climate not possessing the same quantity of excitability, the effects produced by the sudden transitions in the temperature are very different, giving rise to a low fever of a tedious kind, which I have almost invariably found to yield to bolusses twice a-day, containing one drachm each of country opium and emetic tartar. In this disease the excitability of the system is so exhausted by the continual stimulus of heat, that the whole action of the frame decreases, and produces symptoms of universal debility. The horse falls off his food, hangs his head, looks dull, and his skin or hide frequently becomes rough and tight*.

If the above statement of the remote causes of general diseases is attended to, most of the phenomena of diseases peculiar to

* I would here again expose the conduct of the Salistry, who, when the animal's hide is bound, fires it, conceiving it in this case to be the seat of disease, which it never is; and if the flanks heave, they are also fired, for these people have no knowledge of the action of the heart and lungs.

these climates will be in some measure understood, and the mode of relief so obvious as to be within the reach of every one.

The weakness in the loins, usually termed the Pallamcottah disease, from its predominating there, is, I think, occasioned by exhaustion. At the above place, I am informed, the land winds very much prevail; and from what I have before observed in this section, on the effects which these arid winds must produce on the system, complaints arising from exhaustion must be very likely to ensue; and the weakness of the loins, I have every reason to believe, is seated either in the nerves or spinal marrow. That it is not in the muscles is evident, from the resistance it makes to the most forcible remedies; and, still more, from the peculiar action which exists in all the joints posterior to the loins—an action which any medical man may observe to arise from a disease in the nerves. The action is short and sudden; or else it gives way altogether, and the animal trips: in fine, I imagine it to be a species of palsy, and equally as difficult to cure. If this suggestion is true, it will be the same with the effects of exhaustion from the land winds or excessive heat.

Spasm and convulsions, and all the various forms of disease which so suddenly destroy the animal, I imagine arise from the same cause. If what has been said in this section be admitted, these diseases will be found to be a natural result, and what we have a right to expect. We will suppose that at Pallamcottah, or any other place where these diseases prevail, the arid and destructive winds to which this country is exposed have existed some time. The effects, at first, will be a stronger action throughout the system, and all the passions, as desire, &c. will be excited. While aiding the effects of the atmosphere, the excitability will be soon nearly exhausted; yet, from the existence of the very powerful stimulus of heat, a full action is supported. If at this period a sudden change in the temperature should follow, and rain with cold immediately succeed, the effects on the animal will be, that, the nearly exhausted system, not having the strong stimulus that is required, the action of the heart will become very weak, the whole system will be debilitated, and almost immediate death may be the consequence.

The exhaustion may, however, be such, even without the admission of cold, as to destroy life; or, the exhaustion not being so great in other animals, weakness of the loins and other nervous affections may ensue.

Diseases very similar may be produced from a sudden return of intense heat after rain or cold, which I imagine to be worse than the former. In this case, the excitability having accumulated, the excitement or stimuli first employed should be very

small, and gradually increased; as a sudden change to heat, or hot land winds, in this state very rapidly consumes the excitability, and proves very destructive. The properties of these winds may be also rendered still more stimulant in their passage over putrid marshes, or over mountains containing mineral, metallic, or other exciting particles. This is mere conjecture, but, I conceive, by no means improbable. We have, however, no occasion to call such malignant agents to our aid, as our positive knowledge of these winds, independent of the above, informs us that they are sufficiently destructive to the animal*.

Section II.

OF THE OPERATION OF MEDICINE ON THE HORSE.

The operation of medicine on the horse forms, perhaps, the greatest mark of distinction between the study of physic in the human subject and the veterinary science. Medicine on the human subject can act in many ways, as sudorific, emetic, purgative, diuretic, salivary, sedative, tonic, and many others; while in the horse we find scarcely more than two forms of medicine on which we can place much dependence, namely, purgatives and diuretics.

It is fortunate that the diseases of horses are fewer in number and less complex than in the human subject, as we have so little scope for the action of medicine. The cause of this distinction obviously arises from the very different structure of the horse's stomach, which in the human subject is the chief seat of the operation of medicine. This cannot exist in the horse, whose stomach is so small as not even to admit of digestion taking place there; it is, beside, partly covered with a thick insensible membrane. Thus we find that the most powerful medicines scarcely affect the horse, unless they are of a diuretic quality. Bluestone and verdigris, in cases of farcy and glanders, I have seen given at the Veterinary College in doses of two drachms two or three times a-day, without any material visible effect. I believe the intention of giving these medicines was to act as tonics, and they may sometimes in this light succeed.

I once attended at the opening of a horse that died of farcy and glanders. For some weeks previous to his death, verdigris

* A military gentleman informed me he had a horse at Pallamcottah seized with a total deprivation of the use of his limbs, which was cured by extensive mercurial frictions, to which I would recommend, internally, mercury and opium combined.

had been administered in its fullest proportion; and on opening his stomach two or three of the bolusses were found undissolved, and the stomach and bowels in their natural state, not in the least affected by this deleterious preparation. Sudorifics have not yet been discovered for the horse.

Tartar emetic has been given in doses of four, five, or six ounces, without any perceptible operation. In small doses, particularly when combined with opium, it acts as a gentle stimulus, increasing the appetite, and inducing a high state of condition, which I imagine must proceed from its operation as a simple stimulus. Opium on the horse does not induce sleep, but extensively employed will, I believe, from my own observations, affect the brain, and produce appearances resembling the effects of camphor, when administered too copiously to the human subject.

Mercury affects the bowels of a horse in the same manner as in the human subject; but when it becomes absorbed, its influence on the salivary glands is very different, as salivation is, I believe, very seldom produced. In the former I am, however, informed of the contrary in this climate; but from my own experience I am led to doubt this, as I have scarcely ever succeeded in procuring a complete salivation. The salivary glands might be affected, the gums, roof of the mouth, and perhaps the tongue, may be swelled and sore; but I have never known the discharge of saliva sufficiently increased to call it salivation, or that the habit could possibly receive any benefit from the discharge of saliva. The operation of mercury may, however, have all the good effects intended by salivation, as the benefit arising from the use of mercury does not, perhaps, depend on the quantity of saliva discharged, but on a more remote operation, of which that discharge is only an effect; and if an increased discharge of saliva in the human subject proves the system saturated, so also does the sore mouth and gums in the horse.

Our list of purgative medicines is very contracted, as we cannot include any of the purging salts; nor is any purgative effect derived from the roots, as jalap, rhubarb, &c., nor can oil of castor be admitted in this class*. Those alone on which we rely are aloes and calomel; and if softening, emollient, and laxative effects are required, our only resource is in clysters of warm water or gruel. It is possible we could extend our list of purgatives from the cathartic resins, but no advantage could result from it, as they are all of the drastic tribe with aloes and

* Saline purgatives, castor, croton, and linseed oil, and even rhubarb in combination with saline medicines, operate as purgatives upon the horse, cattle, &c. in this country.—T. M.

calomel. In diuretics we are, however, more successful, as the kidneys are operated on with more ease than any other internal part. The turpentines are of this class, from which we find the most extensive benefit; and however arbitrary the name of diuretic may be, the good effects produced are certainly not from the simple operation of increasing the discharge from the blood, but they act on a much more extensive scale, of which the diuretic is only a part. In fine, the operation of that class of medicine generally termed diuretic is of such consequence to the horse, that I shall appropriate to it a distinct section; previous to which I shall make a few observations on the general operations of medicine.

The action of medicine on the horse, like his diseases, is not so complicated as in the human subject. Providence having limited their operation, has, with her usual regularity, also limited the number of diseases incident to the animal, which probably arises from the peculiar structure and economy of the horse's stomach; while the extreme sensibility and universal sympathy of the human stomach must produce more numerous forms of disease.

Medicine, like disease, is divided into two classes. The first comprises those which are stimulant, and more or less diffusible; and the second those which are cooling and soothing in their effects. These classes may be added to those ingredients that have no particular quality, and are used as simple diet, which include the more common food, as rice, bread, milk, vegetables, &c., which stimulate, from their bulk and separation, in the stomach and bowels, rather than by their medical property. Thus, medicines of the stimulant class are employed when the action of the system is languid, and requires to be increased; while cooling and emollient drugs are used to soothe and reduce the system when the energy is too high. Those articles which have not much of either of those qualities, and what the habit in the state of health has been accustomed to, are proper for the healthy state.

The stimulant class comprises the turpentines and resins, which operate as diuretics; and calomel and aloes as purgatives. These are the particular stimulants of the kidneys and bowels.

The more general stimulants internally employed include the diuretics beforementioned, opium, tartar emetic, blue vitriol, and camphor. Externally the turpentines, mercurial ointment, preparations of lead, white vitriol, blue vitriol, oil of vitriol, tar, spirits of wine, camphor, mango leaves, rowels, setons, &c.

As emollients and refrigerants, we have recourse to softening clysters and the use of nitre internally. Externally, soft fomentations; to which we add, as refrigerants, tamarind leaves, vine-

gar, cold water, crude sal ammoniac, bleeding, &c. In the class of emollients is included every thing which softens and insinuates its relaxing effects into parts that are too dense. Refrigerants, or cooling medicine, are supposed to diminish heat, and are used with that intent in superficial inflammations that will admit of being dispersed.

I am aware that this mode of classing the properties of medicine will admit of controversy. A work of this kind is generally reduced to practice by persons not in the habit of studying and investigating the apparently abstruse operations of medicines: I have, therefore, accommodated every part so as to accommodate the practice to the capacity of every person; which is one reason for my reducing their general effects to two classes—one to stimulate and increase the action and energy of the system, and the other to soften, cool, and reduce it. Another reason is, my belief that almost every medicine acts by these two powers, or rather by a variation in the proportion of one; that is, that those substances which are more stimulant than the habit has been accustomed to receive act as stimulants, while those substances which contain less than the habit has been accustomed to, are cooling.

I conceive it a duty attached to the subject on which I am treating to expose in strong colours the absurdity of some pretended diseases and medicines well known in this country.

In gripes, the intestines of a fowl or chicken are recommended and generally administered; they have also the credit of giving relief in various other complaints, and acting as a gentle aperient. The existence of these properties I always suspected, and, from very repeated inquiries, I find that other remedies have been used with them, as clysters, wines, arrack, chillies, opium, camphor, either of which is certainly more calculated to relieve than the bowels of a fowl; and if a discharge is produced, the clyster, which is almost invariably an attendant, clearly accounts for it. However, to ascertain the point to a demonstration, I had two fowls opened, and their intestines taken out immediately, and administered warm; after which I examined the animal very particularly for two days, without observing the slightest effect, either from the intestines, or by any increase or decrease of the action of the system. This pretended remedy and purgative I have repeatedly tried on my own horses, and always without effect. I wish to be the more particular in exposing this inconsistent practice, as it is so very general, and there is scarcely a person who keeps a horse that is not acquainted with this pretended and fallacious remedy.

Another absurdity nearly allied to this, and which still further

exposes the above, is a disease pretended to ensue from eating fowls' dung. It is, I believe, a well-known fact, that fowls are kept in England with the horses, and it is very common to see them picking the oats while the animal is feeding, and must, of course, frequently dung upon his corn and hay, yet no unpleasant effects have been produced. Verdigris, blue vitriol, and the most violent medicine, scarcely affect the horse; yet here is a disease fabricated in consequence of the animal's eating a small quantity of fowls' dung. This preposterous account, I imagine, must originate with the Salistry, whose absurd superstition and prejudices ignorance can alone excuse. We are told that "it is a kind of poison, making his flanks heave, and his dung variegated with an unusual kind of matter." The food of a fowl is innocent farinaceous vegetables, and the intestines are frequently eaten by dogs—an animal much more susceptible of poison than the horse—yet no ill effects are produced. The dung of a fowl can be little else but the pulp of the grain, with the nutritious parts extracted.

Then, by what process can this substance produce such variegated matter from the large, strong intestines of the horse? To render this absurdity still more conspicuous, this very poison, which is said to produce, if neglected, all the symptoms of broken wind for life, is recommended in bowel complaints—for the intestines when administered as a remedy are full of dung. In this case the "*poison*" accommodates itself to the animal's state, and removes disease. Such accounts may be expected from a Salistry, but are scarcely excuseable from a man who aims to be thought possessed of sense. Hospitality should, no doubt, bestow extensive privileges and encouragement on an unfortunate stranger, and as such he is entitled to the most public and liberal support, and which, I have no doubt, he very highly merits; yet it is a matter of regret that he was not so happy in the choice of the subject on which he writes as in his other pursuits, by which he would have prevented the present very unpleasant part of my duty, which I owe both to the public and the science which I profess.

I have dwelt particularly on this subject, as I conceive it of consequence to our reputation that such absurdities should be removed. It is not, however, the above remarks alone which provoke such unpleasant reflections, but the continued chain of pretended remedies, and erroneous description of diseases, generally mistaking symptoms for diseases, or effects for causes.

Of Diuretics.

From what has been already said on the subject of the stomach of the horse, it is obvious that we can place little dependence on the operation of medicine in that viscus; we are, therefore, led to seek some other channel by which we may reduce the system under certain medical influence: this may be effected by the kidneys.

They are two large glands, situated under the loins. They are employed to secrete the more watery and saline parts of the blood. Any medicine possessing the property of increasing this secretion is termed a diuretic.

They secrete two kinds of urine—one from the blood, which is saline, deep-coloured, and small in quantity, and voided when the animal drinks but little; the other is produced by drinking large quantities of fluid, the watery part of which pass off very soon, slightly impregnated with the former kind.

I think it very possible that there are two modes by which diuretics produce their effects. The first is by simple stimulus acting on certain branches of nerves in the stomach, which are connected or act by sympathy with those in the kidneys; thus, on a certain stimulus being applied to the stomach, an irritation of the kidneys may be produced. This is the more probable, from the very numerous branches with which the stomach, in the human subject particularly, is supplied. They may act on the same principle as immerging the hand in cold water on getting out of a warm bed, when a sense of stimulus will be conveyed to, perhaps, every part of the body, by the connexion of the nerves, and the bladder is also immediately stimulated to contract. This is further exemplified in cold weather, when much more urine is secreted than in warm weather.

Medicines, also, which affect the kidneys, generally increase perspiration, and have the character of deterging the lungs, which, I think, is a further proof that diuretics may act without being conveyed to the kidneys, and merely by sympathy. This is a subject which would afford a much more ample scope, if the limits of the present work would admit of it.

The second mode by which diuretics may produce their effects (though slower than the former, is yet much more rapid than by the usual and tedious progress of the chyle), and which I imagine to be the customary mode of operation, is perhaps as follows:—

Most articles which have diuretic properties, independent of the first kind described, are more or less volatile and penetrating, generally the produce of the vegetable kingdom, and containing a

certain quantity of the more subtle and volatile particles of the vegetables from which they are produced. When the diuretic substance is received in the stomach and intestines, we are convinced that it is greatly divided and attenuated, or possibly entirely decomposed. In either case the more volatile parts may escape into the lacteals, and, being very active, may penetrate them, and pervade their whole length with rapidity, ascend the thoracic duct—not by mechanical force which is employed to convey the chyle—but from its own specific gravity, and be thus conveyed into the blood, where it may diffuse itself, and act as a general stimulant, or a partial one on the kidneys only.

By this process, diuretics will affect the system in a few hours, varying according to the state of the animal. It is also a regular, and I think a natural, mode of operating, and what we have a right to expect from diffusible and stimulating substances; and if the absorbents have the property of decomposing fluids, and circulating their elastic gases, the theory above ventured must be free from speculation and a natural result.

This mode of operation will account for ether, turpentines, onions, asparagus, &c., giving their odour so soon to urine; the time required for which may differ according to the state of the body and the ease with which the volatile parts are separated. Rhubarb and other ingredients, by this mode, may also give a tinge to urine in a very short period, when it is considered how intimately the volatile parts are sometimes blended with the colouring matter of vegetables, and that it is not necessary that a complete decomposition should take place in order to reach the system more rapidly than by the usual progress of chyle.

Those substances which although not very volatile and diffusible, yet stimulate the kidneys, are generally acrid or saline; as cantharides, squills, onions, salt, &c., which may operate by the first mode, stimulating the nerves of the stomach very strongly; or by the second mode, although not so rapidly, yet stimulating the kidneys when they arrive there; or they may act from these properties conjointly, influencing the whole system, and more particularly the kidneys.

The substance of many diuretics is positively known to be conveyed into the system in a much shorter time than the natural progress of the chyle will admit; yet no other medium or passage is known leading to the kidneys. Turpentine will frequently give its odour to urine within half an hour, in which case the very positive existence of the substance having reached the kidneys is detected. The supposition of a more direct conveyance than by the lacteals would present a still more inexplicable phenomenon, as such gross vessels could never have escaped

the observations of so many able and curious anatomists. By what power, then, is it possible that urine can receive the odour and even colouring matter of these ingredients, if some such operation as above described does not take place? Parts, we know, may communicate, or be affected from sympathy; but no one will assert that sympathy or nervous communication can give odour or colour. Therefore, as these effects are well known to exist, I must strengthen my theory, by taking advantage of the impossibility of their having any other mode of acting; which operation is the more probable, when it is considered that most diuretics which act so soon are more or less of a diffusible, volatile, pervading, and penetrating quality.

There is an intimate action or sympathy existing between the kidneys and pores of the skin, and these hold a more remote one with the lungs. The first, we before observed, from the increased secretion of the kidneys in cold weather, when the skin is dry, the urine being then copious and pale; whereas, in hot weather, the skin is moist, and the urine small in quantity, and high coloured. This is perhaps the healthy change, which accommodates itself to the varieties in the temperature. Diseases may sometimes be detected by this standard, and every deviation from this rule is the effect of disorder in the system, or heat and cold imprudently applied. The perspiration is sometimes checked; it is thrown on the lungs, and thus produces oppression, cough, fever, &c., whereas, had it passed by the kidneys, the system would not have suffered.

I, however, believe that the benefit derived from diuretics arises from more general properties than the word diuretic implies, as their most extensive benefit certainly does not arise from conveying the redundance from the blood, but from the general stimulus which they impart to the whole system; as in cases of debility, puffed legs from want of energy in the circulation, and particularly in cases of exhaustion; and, next, by increasing the attraction of the blood to the kidneys, for the purpose of diverting it from inflamed parts, as in inflammation of the lungs, &c.

THE VETERINARIAN, MAY 1, 1842.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

PURSUING our remarks on veterinary education from the Number of our Journal for March last, it has often struck us that pupils of our profession leave their schools very deficient in knowledge of a branch of their art every one will admit to be of primary consideration, and especially so to the individual who is to get his livelihood by private practice. The subject I am meaning is *shoeing*. A surgeon is not required to possess himself of the shoemaker's craft; but a veterinary surgeon can in nowise dispense with a knowledge of horse-shoes, and horse-shoe making. That man cuts but a sorry figure in private practice who feels himself obligated to leave all the concerns of his forge in the hands of a foreman, not to mention the fraud or trick he subjects himself to. Even in the army, the common usage of the service is to place the farriery department of a regiment entirely under the management and controul of the veterinary surgeon. My idea is, that no pupil should leave the College with a diploma who cannot both make and nail on a horse-shoe with his own hands. There are numberless situations in private practice in the country in which no smith is at hand to take off or put on shoes, and to pare out feet; and when the veterinarian in attendance cannot perform all this himself, what a deal of trouble and loss of time is occasioned!—to say nothing about the mischief that may ensue from keeping matter pent up in the foot hours or days longer than it needed have been confined. It may, superficially viewed, appear rather discreditable that a person having the dress and address of a gentleman should put on a leathern apron, and, blacksmith-like, handle and pare out a horse's foot: in the face of all this, however—and of whatever might in my own younger days have been my opinion on the subject—I feel now convinced that this practical knowledge of the handicraft is indispensable to the constitution of a "duly qualified" veterinary surgeon; in proof of which I might—were it worth while—here cite some of the highest veterinary authorities. Nay, I might mention the names

of practitioners of the present day, standing at the head of their profession, in further support of the necessity of teaching and qualifying young men in a branch of their art, which, in after-life, they will find a source of the greatest satisfaction to them, should it even not turn out any very great means of profit to them.

What question in common colloquy with our employers is more common than, "Do you think my horse well shod, Sir?" And how is the veterinarian ignorant of all, except the mere superficies of the piece of workmanship, to answer in a manner creditably to himself, in the eyes of others conversant in the business, such an inquiry? To really know when any thing is well done, I apprehend that a person must be, or have been, able to perform the thing himself. As an inspector, he may give a tolerably correct opinion; but, rely upon it, the opinion of the inspector is, after all, nothing like equal to that of the artificer himself. There are in every trade certain points in the manufacture which meet only the eye of the workman, or, at least, by him only are regarded in their proper light—commensurate censure or praise passed upon them, or adequate allowances granted for their committal. Nothing in the eye of an unprofessional person amounts to so unpardonable a fault in a farrier as to "prick" his horse; whereas, every shoeing-smith and practical veterinarian well knows that, either from accident or the nature of the foot, an occurrence of the kind may happen in the hands of the skilfullest workman. Professor Coleman held the farrier to be in fault whenever the horse he was in the habit of shoeing had a thrush, but always felt disposed to pardon an act of pricking the foot. And when every circumstance comes to be considered connected with shoeing, our only surprise is, that horses are not pricked much oftener than they are: the slender make of the nail itself, and its consequent liability to bend; the precise course the nail has to take through the hoof, its correctly taking of which depends all upon the pitch given to it, and upon the magic blow of the hammer; the unsteadiness of some horses; the alarm and fright, and consequent sudden jerk of the limb or motion of body that may happen in the act of driving the nail; I repeat, when all these circumstances come to be mentioned, the only matter of wonder appears to be, that pricking is not a

much more frequent occurrence. The veterinarian, knowing all this, not from hearsay but from the actual practice of his own hands, having had the same thing happen to himself—learns so to appreciate the abilities of his workmen, as to bestow praise or censure, when alone praise or censure is justly due. A good artificer will always work with more pleasure and satisfaction under a master who, himself, understands and can put his hand to the business, than under one who knows nothing, save the theory of it. With the one he feels himself to be in a safer situation than with the other; he stands in higher estimation, has a firmer tenure, being far too much valued to be discharged for any light offence on the part of himself, or caprice on the part of his master.

As regards, then, his patient, as regards his workmen, as regards himself—his own convenience, his own interest—it is, on all these accounts, advisable that the veterinarian should be made perfect in the handicrafts of horseshoe-making, paring out feet, and putting on shoes; nor would it be amiss, were the art even of nail-manufacture added to this: circumstances and situations may occur where proficiency in the art of making horse-nails might prove of the greatest service to him.

In recommending that this practical branch of the veterinary art be taught at the schools, I am not introducing any innovation. Sainbel, in his College regulations, provided for it; and I believe the same will be found practised in most, if not in all, of the continental schools.

In every veterinary school, either the man who is appointed foreman at the forge, or some person in the capacity of *professor of shoeing*, should be deputed to instruct the pupils in the art of shoe-making and shoeing horses; and, without his certificate of qualification, no pupil should be admitted for examination. There would be a difficulty, no doubt, at first, with many young men to induce them to strip and apply their hands to the "black" work. Precept and example, however, would in time overcome all such false delicacy; and should there be any in whom, after due time, they failed to have this effect, the test would be as good a one as could be desired of their total unfitness to practise "the veterinary art in all its branches."

P.

VETERINARY JURISPRUDENCE.

LEICESTER, MARCH 18, 1842.—PHTHISIS PULMONALIS.

CHARLES RAWSON *v.* BLACK.

THIS action arose out of the sale of a mare to plaintiff by the defendant, at Queniborough, on the 23d of February, 1841, which was warranted sound, and sold for £35; the animal, however, proved unsound, although the defendant believed at the time that the mare was sound.

The purchase was brought about at the intervention of a Mr. Wild, a horse-dealer; and, on the road home, plaintiff perceived that the animal coughed a little, but took very slight notice of the fact, thinking the ailment to be only of a trivial and passing nature. Soon afterwards, however, unequivocal symptoms of illness appeared, and Mr. Burley, veterinary surgeon, was called in. The mare at length died, and Mr. Burley was of opinion that death was caused by disease of the lungs. The question now to try was, whether the mare was sound at the time of sale; and whether, a warranty having been given by defendant that such was the case, the loss should fall on plaintiff or defendant. Evidence for the plaintiff's case was then called; and, first, Mr. Wild. The mare, he said, had been in a straw-yard, and was plump and well to look at, but not fit for hard work—not in a condition to follow the hounds: plaintiff, indeed, had been cautioned by Wild against attempting to do so. The animal was "rising four" at the time of sale, and had been recommended to Dr. Noble and others. The mare at the time of sale was as "sound as a roach." He told Mr. Rawson she must be kept cool, instead of which she had been covered with a thick cloth, and the stable windows had been kept shut. He knew Mr. Rawson had been out with the hounds—saw him going up the road. He was afterwards asked by the groom to go and see the mare: found her breathing hard, covered with sweat, and with her legs bandaged up and covered with a cloth—the stable was also closed up. She was in a bad state—just what he should have expected from being over-ridden. No person who had ridden such an animal so hard would have any right to complain of her being ill. He told the groom the animal was bad. The next time he saw her was when the groom was exercising her: she then seemed better. Mr. Rawson afterwards docked and singed her, and so, as witness told him—and Mr. Dalby (plaintiff's attorney) told him—had made her his own. Mr. Rawson said he knew that,

and he liked the mare very much. He (witness) considered no course could have been taken more likely to bring the mare into a bad state than that which had been taken with her.

Plaintiff's groom was then called to prove that the mare had been properly treated while under his care, and that she had not been improperly ridden. He also stated that Mr. Black had told him he was going to pay part of Mr. Burley's bill for attending the mare, and that he (Mr. Black) had no fault to find with her management during the time she had been in Mr. Rawson's possession. Mr. Burley bled her three times while he (the groom) remained with Mr. Rawson.

Mr. Busby, architect, was called to prove that on the day when the mare went to Oadby to follow the hounds, she was but little exercised, there having been no "run," on account of the fox getting into some gorse after they had gone about a field's length. The mare was also ridden gently home, Mr. Rawson saying she was but lately up from grass, and not fit for galloping; so he did not try to overtake his brother (Mr. H. Rawson), who was on before him.

Mr. H. Rawson corroborated the evidence of last witness.

Mr. Burley, veterinary surgeon, had attended the mare, and found her labouring under disease of the chest. He told both plaintiff and defendant that he thought she would die. Mr. Rawson wanted Mr. Black to take the mare home, and return her when she was cured. She died on the 1st of June, and on being opened, in the presence of Mr. Bailey, another veterinary surgeon, several buckets-full of water were found in the chest, and also several tubercles, some of which had suppurated; in fact, the examination completely confirmed his opinion that it was chronic inflammation. The cough which he heard was a very painful one.

On cross examination, he said the sudden putting in of a horse from a straw-yard into a warm, ill-ventilated stable, would probably cause illness: it would be highly improper. Over-exertion might occasion sudden illness. He did not think it would be wise to take out a horse just up from grass on a day like the 1st of March; nor should she have been ridden so as to throw her into a sweat.

Sergeant Goulburn then rose to reply. He was quite willing to respond to the very laudable feeling manifested by plaintiff's counsel, and had no wish to impute any other than the purest motives on the other side. He thought, however, that he should be easily able to satisfy the jury that the horse, at the time it was sold, was quite sound. Simple as the case was, it was nevertheless a most extraordinary one, since not only had plaintiff's

counsel nothing to say against defendant, but the witness called in the after-part of the case for the plaintiff actually contradicted the very first witness produced, who emphatically, and three or four times, declared that the mare (which he had known three or four years) was "sound as a roach." The Learned Sergeant then commented on the evidence in order to shew that it proved the mare had not been properly treated. It appeared, too, let them recollect, that the groom had not been "remembered;" and, he believed, that was a most important part in every horse transaction, as the annals of Leicestershire and Melton would fully prove. If the groom were not "remembered," it was astonishing with what aversion he always looked upon the animal. (Laughter.) His learned friend (Mr. Balguy) had sold a good many horses, and he no doubt knew that the "remembering" formed a most essential part in the affair.

His Lordship then went over the whole of the evidence, after which the jury found a verdict for the defendant.

CAMBRIDGE, MARCH, 21.—COFFIN JOINT LAMENESS.

Saunderson *v.* Harrison.

This, an action for alleged breach of a warranty of soundness given by the defendant to the plaintiff on the purchase of a bay gelding, was tried before Sir N. C. Tindal, Lord Chief Justice of the Court of Common Pleas.

Mr. Sergeant Storks and Mr. Gunning were counsel for the plaintiff; and Mr. Andrews conducted the defendant's case.

The facts were simply these:—

At Horncastle fair, on the 18th of August, 1841, the plaintiff, Mr. Saunderson, a horse-dealer, living in the town of Cambridge, purchased for the sum of £26 a bay gelding from the defendant, Mr. Harrison, a farmer living at Harmston, in the county of Lincoln, and received therewith the usual warranty of soundness. The plaintiff, willing "to turn an honest penny," in a few hours after he had completed the purchase, accepted an offer from Mr. Marriott, of Abbott's Hall, near Braintree, Essex, and transferred to that gentleman the gelding, the subject of the present action, (and along with it the warranty of soundness) in consideration of the sum of £31 had and received.

On the day following these transactions the gelding was started with three others towards Mr. Marriott's residence, a distance of

about 100 miles from Horncastle, in the care of one of those migratory animals who pick up an uncertain livelihood by hanging about fairs, and undertaking such jobs as chance may throw in their way. Up to this time there did not appear to have been any perceptible unsoundness; but in about four days afterwards, when Mr. Marriott on his homeward journey overtook his new nag, some four or five miles from its destination, and it was so lame as to be scarcely able to crawl. An action was brought against Saunderson, the present plaintiff, who was advised to succumb, and proceedings were stayed on payment of costs and refunding of the purchase-money. Saunderson, who only had possession of the horse, it will be remembered, for a few hours, then brought his action against Harrison, for the recovery of the purchase-money, and the costs in the case of Marriot *v.* Saunderson, and twenty weeks' keep, at ten shillings per week.

The first witness called on the part of the plaintiff was Mr. Richard Marriott, examined by Mr. Gunning:—I live near Braintree, Essex. In August last, I was at Horncastle fair, where I saw the plaintiff, Mr. Saunderson, from whom, on the 18th, I purchased the bay gelding, the subject of this action, for £31, receiving with him the warranty given by Mr. Harrison. Next day I sent the horse home, with three others: he was taken about twenty miles that day, but I did not see him again until I overtook the man who had the care of him, about five miles from my own house, four or five days afterwards: he was then exceedingly lame on one fore leg. About the 27th of August I wrote to Mr. Harrison to the purport that the horse was unsound, and that, in all probability, Mr. Saunderson would return it, and bring an action for the recovery of his money. I received no reply to that letter. I afterwards wrote two letters to Mr. Saunderson, to whom I returned the horse on the 21st of September, and brought an action against him for £31. During the time the horse was in my possession he was very lame; he got considerably better, and at length was able to travel to Cambridge, where the plaintiff in this action lives.

Cross-examined by Mr. Andrews.—The plaintiff lives on the Newmarket road, Cambridge. I do not know the defendant. I first saw the horse at an inn, at Horncastle, in company with the plaintiff, on the 18th of August: he was brought out of the stable, and both the seller and myself trotted and galloped him up and down several times, and did not discover him to be in the least lame. After purchasing the horse, I left it in charge of a man, whose name I do not know, and he started next day with it and three others towards my residence. The man was well known as one who gets his living by attending fairs, and taking horses home. When I saw the horse near my own house he was

so lame that I was angry that the man had not left it on the road. The distance he had travelled was about 100 miles.

Re-examined by Mr. Gunning:—I do not know where the man can be found; he has no fixed residence, but is a person who travels about from fair to fair.

Mr. John Poulton was next called.—He said "I am a veterinary surgeon, and have been in practice at Braintree for about twelve years. I am employed by Mr. Marriott, who hunts, and keeps a pack of harriers. The horse which is the subject of this action was shewn to me at his stables, about four or five days after the fair at Horncastle. It was decidedly lame, but the seat of lameness could not be discovered. It was a kind of invisible lameness. I do not now remember on which leg he was lame, neither could I ever discover, after a careful examination, what was the cause of lameness; only it was before. He was so lame that he went dotting along on three legs, like a cat on hot bricks (*loud laughter*). It was like coffin-bone lameness; but as there was nothing at all to be seen externally, I could never discover where the lameness was, but he was lame from first to last; it was more like a horse with corns than any thing else. I cannot take upon myself to say exactly what was its cause. It was a lameness which, in my judgment and opinion, constituted unsoundness. It was a chronic lameness, not originating in any recent accident.

Cross-examined by Mr. Andrews:—To the best of my knowledge the horse was lame in the foot; but I do not know where, nor whether he was lame in one leg or both. By chronic lameness, I mean a lameness of old standing—not of recent origin. A horse may lame himself in the coffin-joint by a sudden stump, or by striking the foot against some hard substance: lameness of this kind is often incurable, and may be caused in a moment.

Re-examined by Mr. Sergeant Storks.—I cannot say how long the horse had been lame when I first saw him, but I should suspect several weeks. If he had injured himself by some sudden strain, there would have been inflammation and heat, which must have been discovered upon examination. It is my opinion that the lameness did not arise from a sudden strain, but was of long standing; and I do not believe that any man could tell where the lameness was.

Mr. S. Sparrow examined.—I am a veterinary surgeon practising in Cambridge, and have passed the College. On the 16th of this month I examined a bay gelding for the plaintiff, and found it unsound in the near fore foot. I think the lameness was the effect of some old injury. I cannot say how long it might have existed, but I think for a considerable period. The cause of the lameness is inflammation in the joint commonly called the coffin joint, which inflammation was still in existence when I ex-

amined the horse last week. A horse with this disease may go apparently sound after an hour or two's exercise. In his present state I should say the horse is not worth more than about £10. If the complaint had been of recent origin, there must have been heat at the time of the examination by the former witness; but the situation would not admit of the discovery of the swelling which usually accompanies inflammation.

Cross-examined by Mr. Byles.—Lameness in the coffin joint is often the result of a sudden strain, by which a diseased action is set up, resulting eventually in incurable lameness. It may arise from a sudden knock or concussion, or from rapid and overstrained motion. The inflammation now existing in the horse's foot is of a chronic character; but I cannot take upon myself to say how long it has existed. Supposing an accident to have caused the inflammation, lameness would immediately have supervened, and might or might not be curable, and would be perpetual or intermittent according to circumstances.

Re-examined by Mr. Gunning.— If the lameness had arisen from an accident I think the inflammation must have been discovered by external heat at an examination four days after the accident. Travelling might have aggravated the lameness; but if no heat were perceptible, I do not think the cause of lameness could have originated after the sale.

The writ served upon Saunderson on the 16th Sept. 1841, in the action Marriott *v.* Saunderson, was put in.

Mr. C. H. Cooper.—I am attorney for the plaintiff, and was concerned for him in the action brought against him by Mr. Marriott. Immediately on pleading there was a judge's order to stay proceedings on payment of debt and costs. Mr. Marriott's costs amounted to £11 9s. and Saunderson's to £3 18s. 10d. On the 31st of January I wrote to the now defendant on the subject of this action. I could not write earlier because I had not his address.

Godfrey Nunn proved that the horse had been standing in plaintiff's stable ever since he came from Essex in September, and that 10s. per week was a fair sum for his keep.

On cross-examination he said, Stourbridge Fair was held after the return of the horse, and that there is a horse market in Cambridge every week.

Mr. Andrews then addressed the jury on behalf of the defendant, in an ingenious speech of some length. The learned gentleman contended, that even on the evidence adduced by the other side, it was quite clear that the lameness originated after the sale, during the journey from Horncastle to Essex: in support of that view of the case, he would call witnesses who would prove that

the horse had been perfectly sound for many years before, and up to the very moment when he was disposed of to the present plaintiff. He commented with considerable effect on the fact that the plaintiff had not produced the man who had charge of the horse after he was purchased by Mr. Marriott, and who would have been able to give the best, and perhaps the only satisfactory, account of the origin of the lameness.

The following witnesses were called on behalf of the defendant:—

Richard Hugill.—I am a brewer at Petersfield, Hampshire, and formerly lived at Billingborough, in Lincolnshire. In November, 1838, I bought the horse in question, and sold him at the April Lincoln Fair, in 1840, to the defendant. I rode him nearly every day, and he was never lame in the slightest degree while I had him.

Cross-examined by Mr. Serjeant Storks.—I have never seen the horse since I sold him. I bought him at four years old from a person named Pixon for under £30, and sold him for about £35; but I do not remember whether I gave a warrant with him or not, though he was always a sound horse. A man named Pearson sold him for me. I rode him sometimes forty miles a-day.

Charles Pearson, groom to the last witness, deposed to the soundness of the horse while under his care.

Robert Pearson (a very deaf old man, whose peculiar mode of replying to questions amused the court) sold the horse to Harrison at the Lincoln April fair, 1840, for £36, as a sound horse.

Thomas Raynes, servant to defendant, had the care of the horse, and never knew any thing to be the matter with him.

Robert Coddington Moore, examined by Mr. Andrews.—I am a surveyor and land agent, and live about 200 yards from defendant. I know the bay gelding in question, and have ridden him a great number of times: I always believed him to be perfectly sound. The day before he went to Horncastle fair I saw him, and he was then quite sound.

Cross-examined by Mr. Serjeant Storks.—I ride above 18 stone: last time I was weighed I was eighteen stone four pounds. I make nothing of riding fifteen miles at a good pace without drawing bit.

John Chapman was employed by the defendant to sell the horse last August at Horncastle. He was never lame in the least degree.

Upon this evidence, Mr. Serjeant Storks replied, strongly urging upon the attention of the jury the usage the horse had received for the last few years, especially in carrying the stout and jovial surveyor and brewer, who "made nothing of riding

fifteen miles at a good pace without drawing bit." Laying aside the decided opinion expressed by the professional gentleman who had been in the witness-box, he held such usage to be quite enough to account for the lameness, and consequently to entitle his client to recover the damages he asked at their hands.

The Lord Chief Justice, in summing up, told the jury that the simple question which must guide them was, whether the horse was or was not sound at the time of the bargain between the plaintiff and defendant.

After a short deliberation, the jury returned a verdict for the defendant.

The justice of this verdict will probably be acknowledged by a majority of professional readers. No veterinary surgeon can have been long in practice without having met with many instances of lameness originating instantaneously, and, if neglected for even a short time, baffling every subsequent effort to subdue it. Lameness of this nature may, with rare exceptions, be eventually traced to some affection of the delicate and beautiful machinery of the foot; but its precise seat is often undiscoverable during life, except by the nicest care. The whole tenor of the evidence in the foregoing case would lead one to rank in this category the disease which gave rise to the action, and, consequently, to conclude that the verdict was a just one, inasmuch as the lameness *originated* on the journey from Horncastle to Essex, certainly one day, and probably two or three days after the defendant had parted with the possession of the horse.

Still the plaintiff seems to be hardly used in the transaction. He bought the horse of the defendant, and on the same day resold it to Mr. Marriott, in an apparently sound condition. The horse was in Mr. Marriott's possession when the unsoundness is presumed to have originated, and on the very ground on which a verdict for the defendant was returned in the case of Saunderson *v.* Harrison, a verdict for the defendant ought to have been returned in the case of Marriott *v.* Saunderson, in which proceedings were stayed on defendant paying all the costs. If Saunderson could not recover of Harrison, it is clear, on the evidence, Marriott ought not to have recovered of Saunderson. The horse was either unsound when Harrison sold it to Saunderson, or it became unsound after Saunderson sold it to Marriott; but there is no pretence whatever for saying the unsoundness originated during the very few hours Saunderson retained possession of it; yet *he* suffers.

GLOUCESTER, MARCH 1842.—STRINGHALT.

Shillam *v.* Arkell.

This was an action for the breach of a warranty of a horse sold by defendant to plaintiff for £33, on the 5th of August last, and afterwards sold by public auction by plaintiff for £24, to which defendant pleaded—first, that he had not warranted the horse, and, secondly, that the horse was sound at the time of sale. A written warranty was first put in, signed by defendant, and his hand-writing sworn to by a witness.

Mr. Nind, to whom the plaintiff resold the horse on the said 5th of August, was first called. He proved that he observed the horse catch up his hind-leg in a peculiar manner while he was inspecting him, and pointed out the apparent unsoundness to the plaintiff, who assured Mr. Nind that the horse was warranted sound to him. In consequence of this, Mr. Nind did not hesitate to take the horse, which afterwards proved to be affected with *stringhalt*. This unsoundness was more visible when the animal had stood a little time, and afterwards turned round, than in his usual walk.

These facts were proved by several of plaintiff's witnesses, and particularly by two who saw the horse and wanted to buy him on the morning of the 5th of August last, previous to the plaintiff seeing him, and to both of whom the defendant offered to warrant the horse sound, though the unsoundness was pointed out to defendant by them. These parties saw the horse in the stable, but did not examine him out of doors.

It was further proved, by the evidence of Messrs. Pegler, Marshall, and Dudfield, that stringhalt decidedly constituted unsoundness, inasmuch as it impeded the natural action of the animal, and much diminished its value; and, that the disease might have come on suddenly, and in the following manner, namely, by a laceration of the fibres of the adductor muscles, or by some morbid affection—some structural or functional derangement of the sciatic nerve. The equal action of the muscles was destroyed in consequence of the diseased state of the nerve. The flexors, naturally more powerful than the extensors, assumed a more violent and spasmodic action, unpleasant to the rider, and causing an unnecessary expenditure of animal power in the horse.

A treatise on the horse, published by the Society for the diffusion of useful knowledge, was read by the defendant's counsel, in which it is laid down that stringhalt is an "involuntarily

twitching" of the hind-leg, which does not constitute unsoundness. The professional witnesses dissented from this doctrine, and the Judge afterwards held that this book only expressed the opinion of an individual, and could not be received as an authority*. Defendant's counsel maintained two points: first, that the warranty had not been satisfactorily proved, which was over-ruled by the Court; secondly, that the plaintiff was cognizant of the unsoundness at the time he purchased the horse; consequently, as it was visible to both parties at the time of sale, the warranty must have been with the exception of stringhalt, and therefore had not been broken.

Witnesses were called on behalf of the defendant, who swore that the horse never had stringhalt, and even went so far as to swear that he was sound and free from the disease on the 4th of August, the day before the sale. When, however, they were pressed upon the point, they could not help admitting that stringhalt was unsoundness.

Mr. Justice Patteson, in summing up the evidence, intimated his opinion that stringhalt did constitute unsoundness, but that, if the defendant had not called witnesses, he should have thought the defect, as proved on behalf of the plaintiff, so very visible, that it must have been known to both parties at the time of the purchase; in which case the warranty must have been clearly with the exception as to the stringhalt, and would not have been broken. As the case stood upon the contradictory evidence, the jury were to decide which set of witnesses they believed. The jury, after an hour's deliberation, returned a verdict for the plaintiff, damages £14.

MEETING OF THE COMMITTEE OF THE VETERINARY PROFESSION.

On Friday, the 22d ult., a deputation from the committee of veterinary surgeons, associated for the purpose of using their endeavours to obtain some legislative recognition of the profession at large, waited, by appointment, on Sir James Graham, Secretary of State for the Home Department, and were most courteously

* The author of this book, written many years ago, confesses that his opinion on the subject of stringhalt has undergone a very considerable change. The professional witnesses were perfectly right in dissenting from the doctrine which he then taught, and he agrees with them that stringhalt is unsoundness.—Y.

received by him. A report of what transpired on the occasion will, probably, appear in the next number of THE VETERINARIAN. The deputation consisted of the president of the committee, the secretary, and four of the members; and were introduced to the honourable secretary, and aided in their praiseworthy object, by two members of parliament.

THE EPIDEMICS.

THERE are now raging throughout the greater part of England and Ireland, and some districts of Scotland, epidemics among horses and cattle of a most fatal character. They are altogether different from those that have lately prevailed, both in the character which they assume and the increased mortality by which they are attended. Sheep are rapidly beginning to be involved in the general destruction.

Will some of our readers, who have treated them successfully, or who have witnessed their ravages, favour us with an account of their rise, course, distinguishing characteristics, and most successful treatment? They would confer obligation on us, and on their brethren and the country generally.

EDINBURGH VETERINARY COLLEGE.

ON the 19th and 20th of the last month the annual examination of the students attending the veterinary school of Professor Dick took place in Clyde Street Hall, Burn Murdoch, Esq., Convener of the Veterinary Committee of the Highland and Agricultural Society of Scotland, in the chair; when the following gentlemen, after a most searching examination, conducted under the inspection of the most eminent medical and veterinary practitioners, received their diplomas:

George Harrison, Hinkley, Leicestershire.
Peter Newton, Liberton Kirk.
Robert Arthur, Monkland Iron and Steel Works.
Alexander Taylor, Kirkbuddo, Forfarshire.
Robert M'Robie, Airthrey, Stirlingshire.
William Roy, Crieff.
John Low, Pittendinie, Perthshire.
George Wyllie, Old Deer, Aberdeenshire.

Robert Dobson, Seton, Haddingtonshire.
William Lord, Quebec.
George Simpson, Auchmithie, Forfarshire.
Alexander Lawson, Glasgow.
John Low, Auchingeoch, Kincardineshire.
George Hogarth, Berwick.
John Hepburn, Laurencekirk.
Thomas Pollock, Edinburgh.
John Campbell, Lieutenant 7th Madras Light Dragoons.
Charles G. Pugh, Haverfordwest, Pembrokeshire.
Samuel Forrest, Carluke, Lanarkshire.
Alexander Smith, Appletree Hall, Roxburghshire.
Henry Hurst, Liverpool.
Luke Byrne, Dublin.
William Haycock, Huddersfield, Yorkshire.
Richard Brining, Waterloo, near Liverpool, Lancashire.
John Martin, Limerick.
William M. Boag, Kelso.

The anatomy and physiology of the horse and domesticated animals generally, with the general principles of veterinary hygiene, pathology and therapeutics, were superintended by Dr. Mercer, lecturer on anatomy; and the practical departments of the science were most ably occupied by Mr. Wilkinson, veterinary surgeon of the 17th Lancers, now stationed at Piershill barracks.

Among the other medical gentlemen present, and who took a part in the proceedings, were Sir George Ballingall, Sir William Newbigging, Professor Simpson, Professor Lizars, and Messrs. Robertson, Handyside, Home of the Queen's Bays, Maclagan, Newbigging, Burt, Bell, Jas. Miller, Esq., W. Carmichael, Esq., &c., &c. Among the veterinary surgeons were, Mr. Olden, Cork; Mr. Lawson, Manchester; Mr. Dearden, Manchester; Mr. Horsburgh, Dalkeith; Mr. Dunlop, Audrie; Mr. Ferguson, Peebles, and many other veterinary surgeons from the surrounding counties.

The ability and general intelligence of the pupils seemed to gratify and delight all present; and in the competition for the medal for general proficiency, given by Professor Dick, two gentlemen appeared so equal in merit, that, after a re-examination, the examinators were unable to decide which should have the precedence. Both candidates appearing so deserving, the Directors of the Highland Society, who were present, agreed to give an additional medal, so that both gentlemen might stand on an equality.

The two successful candidates were Messrs. M'Robie and Lord.

The prize which is also given by Professor Dick, for the best anatomical preparation, was gained by Mr. Forrest. This consisted of a beautiful dissection of the bloodvessels and nerves of the head and face, and was allowed by every professional gentleman present to be a most unique specimen of its kind.

At the conclusion of the examinations the Chairman awarded the prizes to the successful candidates, and, afterwards, made a very appropriate and impressive address to the newly admitted practitioners; after which, on the motion of Sir George Macpherson Grant, Bart., of Ballendalloch, seconded by General Mayne, C. B., thanks were unanimously voted to the medical and other examinators for the care with which they had conducted the examinations, and more especially for the great sacrifice of time made by them in promoting the objects of the institution, and in diffusing more extensively a taste for the cultivation of the veterinary art.

This was responded to by Sir George Ballingall, who, at the same time expressed his hope that the cultivation of the medical and veterinary sciences might go hand-in-hand, and that the advancement and advantages of each might be reciprocal.

The attendance of gentlemen who take an interest in the Veterinary College was more numerous than upon any former occasion; for beside those already mentioned, were, Sir P. Murray, of Thriepland, Bart.; Sir Charles Gordon, of Drimnin; Mr. Graham of Redgorton, Mr. Gordon of Carnbulg, Mr. Sprott of Garnkirk, Mr. Lamont of Knockdow, Mr. Hunt of Pittencrieff, Major Graham of Inchbrakie, Mr. L'Amy, jun.; Mr. Stephens, Editor of the Quarterly Journal of Agriculture; John Mackay, Esq., with several members of the town council, and many of the landed proprietors and farmers around the city.

In the evening a numerous party dined in the Royal Hotel, Mr. Lawson in the chair, Mr. Lord acting as croupier. After the usual introductory toasts were given, the following were proposed, of a few of which only we have an account.

1. The University of Edinburgh, and Sir George Ballingall.
2. The Royal Colleges of Physicians and Surgeons, and Professor Lizars.
3. The Extra-academical Lecturers, and Dr. Robertson.
4. The Edinburgh Veterinary College, and Professor Dick.
5. The Medical Examinators, and Dr. Mercer.
6. The London Veterinary College, the Veterinary Examinators, and Mr. Wilkinson of the 17th Lancers.
7. The Veterinary Profession, and Mr. Dick, sen.
8. The Science of Agriculture, and Professor Low.

9. The Veterinarian, and Mr. Youatt.
10. The Health of the successful Candidates.

The third toast was introduced by Mr. Simpson:—Many around me, said he, would propose the toast I am about to announce with much greater effect than I can pretend to do, but to no one will I yield the claim of greater sincerity. Every student who, in the struggle of to-day and yesterday, has had his ability and his industry severely but fairly tested, must feel with me the deep obligations we owe to the eminent extra-academical medical lecturers. Through their kindness we have had it in our power, during the whole course of our studies, to listen to the eloquent lectures delivered by them on the various branches of the medical profession, the advantages of which we now truly feel and shall gratefully acknowledge in after-life.

We shall not soon forget the urbanity and kindness with which we have been at all times treated by those gentlemen. We were placed, to the fullest extent, on the same ground with their own pupils. We should, however, take a limited view of their kindness were we merely to consider our own personal advancement; we feel—we deeply feel—the effect their countenance must have in elevating our profession to the status which it ought to occupy in the public estimation.

It is, indeed, delightful to think that the liberality of the most enlightened members of the medical profession should lead them to exert their utmost power to promote our interest; for, actuated by a feeling worthy of great minds, they consider the welfare of the inferior creation; and think it no degradation, as many narrow-minded individuals might do, to regard us as brothers in a good cause; those whose profession and whose endeavour it is to ameliorate the sufferings of animals occupying a place somewhat lower than ourselves in the scale of organization.

But whence has this favour partly sprung? Undoubtedly from having observed the zeal, and industry, and talent, which has lately been brought to bear on our own profession by those constituting its head and front, for an example of which you will all allow it would not be necessary for me to go far.

Let us, therefore, while we somewhat rely on our own exertions, ever remember, and with the truest gratitude, the assistance we have received from the talented members of an honourable profession, and especially from those to whom I have alluded. I beg to propose, with all honours, "The extra-academical Medical Lecturers."

Dr. Robertson returned thanks.

Mr. Lawson then rose, and said:—Gentlemen, I will not occupy

your time by offering any apology for my inadequacy to discharge the duty which now devolves upon me. However weak the ability, the will is strong. Fortunately, however, the subject is one which requires no lengthened preface, no power of eloquence to insure it a heartfelt response. When I name Professor Dick, and the Edinburgh Veterinary College, I know it will come home to the feelings of every one present, and more especially those of my fellow-students, who, like myself, have just closed their curriculum of study. To attempt a panegyric on the character of that gentleman would occupy too much of your time, and display my total inability for the task; I shall, therefore, simply crave your attention to a very few words. Professor Dick is the father of veterinary science in Scotland. This is undeniable. How has he attained this honourable distinction? Did it fall accidentally to his lot? or were ease and emolument held out as bribes for his ingenuity and talent? I need not pause for a reply.

We all know that it was heavy up-hill work for many a long day. The field was comparatively barren, and the produce unworthy of him who laboured to cultivate it. But this I know, that there is not one here who does not rejoice, that the once barren field is now yielding abundant fruit, and, in some measure, rewarding the diligence and industry of the husbandman.

Professor Dick has attained the eminence which he now so justly holds from long-continued and unwearied labour. There were difficulties to surmount, and exertions required, which none but the individual immediately concerned can adequately conceive.

The ignorance and the hatred of interested quacks—the prejudices, long and deep-rooted, I may say, of the entire country—were to be overcome. It had hitherto, by general consent, been taken for granted that a knowledge of the symptoms and treatment of the diseases of the domesticated animals was by some mysterious process imbibed by the smith, while he was rounding a piece of iron to the shape of the horse's foot, or while nailing it to his hoof. These prejudices are in a great measure destroyed. Professor Dick, however, has done more. He has opened an honourable and useful profession to the youth of his country; and the title of veterinary surgeon is not now, as it was wont to be, one to which a man of education and a gentleman would scorn to aspire. The public are becoming aware that the old and universal prescription in every case, "We'll tak a drap of bluid at ony rate," will not suit the constitution of their horses and cattle any more than it would that of their own, and are daily getting more alive to the necessity of a thorough scientific education for the veterinary practitioner.

Of Professor Dick's character as a man I need say little. It is well known to all of you. He has ever been characterised by a liberal, candid, straightforward and consistent course of conduct.

Without detaining you further, I shall, therefore, propose, "Prosperity to the Edinburgh Veterinary College, and happiness to its Founder and present Professor, Mr. Dick."

Dr. Mercer rose soon afterwards, and said that the toast which he was about to propose was one which would come home to the feelings of every one of the present company; viz. "Prosperity to the Veterinary Profession."

They were now met at the social board, to celebrate the termination of another session of the Edinburgh Veterinary College; and the success and eclat with which this has been done were, he said, perfectly understood by all present.

It is a custom, he said, of long standing—and one which has gained authority by its age—that, after a science, or a public institution, has completed a half century of its existence, some public demonstration usually takes places commemorative of its foundation: now, when we apply this good custom to the subject of our toast, we shall find it to be a fact no less true than it is startling, that we may be also said to be met to commemorate the jubilee of the public existence of the veterinary science in this country.

I need not point out to you the circumstances under which this science was established, the degraded condition in which it was found prior to that period, or the success which has hitherto attended its cultivation. These have already been sufficiently pointed out by the previous speakers, and it therefore only remains for me to wish continued success and prosperity to it as a science, and that that rapid progress and advancement which it has of late years made may still continue; and, more especially that you, who have this day been enlisted under its, banners, will prove yourselves alike worthy of the noble science you have undertaken to promote, and the patriotic institution under whose fostering auspices you have begun your public life.

I cannot, however, sit down without alluding more particularly to another topic. The health of your worthy Professor has already been proposed, coupled with the honourable title of the "Father of veterinary medicine in this part of the kingdom:" but, gentlemen, when I look around me, it is with feelings of the greatest pleasure that I observe one seated at our festive board who is entitled to the still more venerable title of the Grandfather of veterinary science,—I allude to Mr. Dick, sen. To us it must be extremely pleasing to observe him, after having so far exceeded the allotted period of existence, enjoying such excellent health—taking that interest and fatherly care over you which he daily

does—and, still more so, to see him here, entering into all the amusement of the evening with the same vigour as if he had been but a youth of twenty-five; verifying, indeed, to the fullest extent, the remark of the Psalmist, that as his age increases, he becomes "fat and full of sap, and always flourishing."

I am sure, gentlemen, that each and all of us wish him a long continuance of that inestimable blessing, and that the evening of his days may be as calm and serene as the bustle and active labours of his meridian of life fully entitle him to claim.

Mr. Boag proposed the following toast:—

I really feel some little diffidence in rising to the call on the present occasion upon which we are met to do honour to, and testify our respect for the distinguished guests by whom we are surrounded, and to many of whom we are so deeply indebted for imparting to us that knowledge of the animal frame on which our success in life and practice, and our skill and usefulness as scientific practitioners, mainly depend. In rising before those who rank so high in the position which they, as medical teachers, occupy, and who fill with such ability the offices they individually hold—those who are not led away, as many in high places are, with unprofitable or speculative views, or ingenious yet worthless theories, but who possess that which must ever give to theory its greatest value and highest grandeur,—the power to apply and to convert it to some useful end or practical purpose,—and to discharge with full efficiency and honour the respective duties of their calling; in rising, I say, at this time, and before such distinguished guests, I do feel much diffidence, and must respectfully claim your very liberal indulgence.

The toast entrusted to my care, and which I have now the honour to propose, probably stands too high in your regard, in intrinsic worth and in general importance, for any language of mine sufficiently to describe or adequately express. Whether I regard the attention which has been paid to agriculture from the earliest to the present time by the wise and the good of all nations—by those who have really and truly at heart the best interests of the land—or the improvements which its study has been instrumental in effecting on the face of the country, and on the social, intellectual, and moral condition of the people—or its importance in contributing to our national resources, its capability of adding to the wealth of our fellow-men, or its power to confer the subsistence and necessaries of life—its worth in affording a pleasurable and healthy occupation to thousands, and the homely felicity and fireside delight which such a line of life never fails to impart, or its value not only in keeping up a friendly intercourse and an harmonious feeling, and in binding and concentrating the affec-

tions of all within its sphere, but in establishing amongst its votaries a degree of intellectual greatness, of scientific knowledge, of practical information, and of moral sway that must ever command from other members of the community that attention and that respect which are eminently and unequivocally their due. Whether I regard the science of agriculture in one or all these points—whether I take them singly or collectively, alone or altogether, they are fully and justly entitled to our notice and to our well wishes.

God speed the plough! are common and familiar words; but words no less common and familiar than ever seasonable and naturally important.

The rapid strides which agriculture has of late years made, and is at this moment making, despite of the few dark streaks in the horizon, cannot have escaped the observation of any of you.

In its increase and onward progress it has cast a piteous eye upon and lent a helping hand to a science that bears closely and importantly on its welfare and prosperity—a science to which I am proud to say that I, in common with many here, have the honour to belong. I need not comment on the interest which the agricultural societies almost everywhere, and especially the Highland Society of Scotland as the parent of them all, have taken in favour, and for the promotion of the veterinary science, and chiefly in the school over which our talented and respected Professor presides.

I am quite aware, in bringing the subject of agriculture at all under notice, of the great and wide field open before me. It were easy to picture to you the face of one country lying in waste and unproductiveness, and its inhabitants sunk in poverty and degradation, and to turn to the state of another teeming with verdure and fertility, and tenanted with people intellectual, moral, and prosperous, and to shew the bearing which an extended degree of civilization has upon the progress and high standing of agriculture. This, however, you will agree with me, is neither the time nor the place for any such purpose. I would only, in conclusion, mention the name of one whose labours and talents have given so much interest to, and conferred so much benefit upon the science—one to whom the agriculturists generally, and through them the great body of the people at large, and I may add, in no slight degree from the privilege and opportunity we have had of attending and profiting by his lectures—one whose name stands high in the agricultural and veterinary world, and one whose efforts for their advancement are honourable and unremitted. You already anticipate me, when I give you, "Professor Low, and Prosperity to Agriculture." At the same time, let this

be received as a public and sincere acknowledgment of our obligations to him, for his kindness in extending the benefit of his lectures to the students of the veterinary school.

Mr. Ferguson proposed "THE VETERINARIAN, and the health of Mr. Youatt."

He was sure every member of the profession would join him in this toast. THE VETERINARIAN had, for a series of years, afforded a medium of communication of the greatest practical importance to the profession; and he trusted that the old Editor and the new ones would continue to exert themselves as they have hitherto done, in placing and ever upholding the veterinary art in the high standing it is entitled to occupy. He trusted that, in despite of any misunderstandings which might occasionally take place, this periodical would continue to flourish.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

COGSWELL ON IODINE.

[Continued from page 224.]

OF the various forms in which iodine has been used medicinally, its combination with potash—the preparation called the hydriodate of potash, or iodide of potassium—appears deservedly, both in human and veterinary practice, to have obtained the highest repute. The form, of all others, most approved of, seems to be "the conjunction of the pure principle with the hydriodate of potash, whether it be for internal or external use." Iodine combined with sulphur has been a good deal used, and by Mr. Youatt, for canine bronchocele, is, indeed, preferred. In the horse, the iodide of potassium appears to have been the preparation commonly prescribed. In doses from one to two drachms it may be safely exhibited; though, as yet, veterinarians have not made up their minds in what diseases—the horse being but rarely the subject of bronchocele—it is likely to prove beneficial.

As an external application, the iodide of potassium has been employed by veterinarians with a good amount of success. The writer of this is in the habit of using an ointment composed of a drachm and a half of the iodide of potassium, to an ounce of lard, adding, by way of imparting colour and odour to it, a drachm or so of the compound tincture of lavender—for all sorts of chronic

or indolent tumours and enlargements; and he has found even osseous swellings, splints and spavins, in time, to become diminished by continual inunction. After some daily perfrications, an exudation of yellowish concretion appears upon the surface, which at the same time becomes tender or sore from the application. When this happens the inunction had better be discontinued, to be renewed at some future time, as soon as the effects shall have passed away.

There appears to be a prodigious quantity of adulterated iodide of potassium on sale, and, consequently, it behoves practitioners who are in the habit of prescribing it to take care that they are not imposed upon by their druggists. The adulterating ingredient is carbonate of potash. "At a discussion of the London Medical Society, having reference to Dr. Elliotson's practice of administering this compound in doses of *two drachms*, Mr. Pereira stated his belief that *but one house in London sold it pure.*"

Such being the fallacy our medical practice is exposed to, it becomes our duty, ere we prescribe it, to subject this medicinal to tests of some sort. Dr. Traill has suggested an easy method of detecting sophistication. "Tincture of iodine, added to the suspected compound, loses its colour if the carbonate be present. Mr. Pereira proposed to immerse one of the crystals in lime-water, when the presence of carbonic acid will be indicated by the fluid growing milky." We must also bear in mind, that "the iodide of potassium should not be prescribed along with the salts of copper, silver, lead, and mercury." "The chief use that has been made of this compound among the (medical) profession at large, is that of a solvent for iodine; or, when applied alone externally, the internal use of iodine has been very commonly conjoined with it."

"From certain facts stated by Drs. Zuik and Guirdner, iodine would seem to undergo absorption through the cuticle; not only did tumours in distant situations disappear, during the practice of spreading some of the ointment on particular surfaces, but the last named gentleman has even witnessed the supervention of gastric pain and copious bilious diarrhœa."

The following experiment made by Mr. Cogswell shews that the action of iodine, subcutaneously applied, is not confined to "local irritation," but "extends over the system."

"Three drachms of hydriodate of potash, dissolved in half an ounce of tepid water, were injected beneath the skin of the back of a strong common-sized terrier dog. The animal, for two or three minutes, seemed to be in great pain, but after this recovered, and took his food as if nothing had happened. Towards evening he was evidently in low spirits, though still inclined for food. In the

night he passed two black, scanty, semi-fluid stools. The following day he maintained the same constant posture on the side, rejecting nourishment, and complaining loudly if handled. On the third day, the animal lay stretched completely on the side; the eyes and mouth closed, and the jaws moist with saliva, under which circumstances death took place late in the evening.

Inspection.—The body was rigid. Over the artificial cavity for the poison the hair and cuticle easily came away; and the walls were lined with a layer of thin, soft matter, resembling in appearance cream tinged with blood; the right cavities of the heart were filled with dark fluid blood; the left ventricle contained a small dark coagulum; the stomach was flaccid, but contracted slightly on exposure to cold water; its inner membrane presented moderate diffuse redness." "Mr. Cogswell detected combined iodine in the blood from the heart, in the brain and spinal cord, the liver, spleen, stomach, muscles, tongue, and the bones, freed from their appendages; likewise in the contents of the bladder."

"Half a drachm of hydriodate of potash, dissolved in half an ounce of water, slowly injected into the jugular vein of a strong dog, produced a feeble cry and general spasmodic contraction, with evacuation of the urine and fæces: in a few seconds the animal fell powerless, with the saliva flowing, the tongue hanging out, and its fibres oscillating. When opened ten minutes afterwards, the body exhibited the brain and spinal cord congested, and partially-coagulated blood filling the right cavities of the heart."

"In a similar experiment with four grains on a smaller dog, death took place in about a minute."

"A quantity of the hydriodate in solution produced vomiting. Devengie then introduced a solution of two drachms, and tied the œsophagus. Immediate depression followed, and death on the third day."

"Three drachms in solution destroyed a larger dog (with the gullet tied) in about the same time. The body remained flaccid after death."

A drachm of the hydriodate, dissolved in two drachms of water, were introduced into the stomach of a strong male rabbit. "The animal instantly became depressed, and refused his food;" and "on the third morning it was found dead."

"Enough has been said to shew that, so far as it has been tried, the hydriodate of potash exercises a powerfully irritant action on the digestive canal of the lower animals, and that, at least, some individuals of our own species are liable to be affected in a similar manner."

"Dr. Elliotson refers on many occasions to a species of coryza, characterized by pain in the nose and forehead, and increased discharge from the nasal passages, as occurring while his patients were using the hydriodate of potash."

"A diuretic effect has been very commonly observed:" indeed, "Dr. Elliotson considers the diuretic action to be its principal effect." In my own practice, so far as the horse is concerned, I can confirm this. A horse who has within this last month been taking a drachm of the hydriodate morning and evening for a pulmonary affection, has had no visible alteration produced by the medicine, save inordinate staling.

Ptyalism is said to have been produced by it on a child.

In addition to its medicinal virtues in the cure of bronchocele—which are now by no one doubted, in man, dog, and horse—Dr. Baron "conceived the hydriodate of potash to have been productive of great benefit" in phthisis. In animals—in particular in the monkey tribe—Mr. Youatt has tested it in the same disease with apparent benefit.

"To draw a comparison between the effects of iodine and iodide of potassium is a matter of some difficulty." "Both affect the salivary and absorbent glands, produce iodism, and cure bronchocele, in whatever way they are applied to the system. But the compound is more tedious in its medicinal action; more than this, it has sometimes completely failed, for instance in nervous affections, where the employment of iodine has been attempted with eminent success."

"All things considered, we are, perhaps, warranted in concluding that, in many of its most important characters, the action of hydriodate of potash bears a strong analogy to that of iodine."

In respect to the other compounds of iodine enumerated in the work before us, viz. the iodides of sulphur, of carbon, of iron, of lead, of zinc, of mercury, Mr. Cogswell observes, that *the iodide of sulphur*, there seems no ground for supposing, "differs from simple iodine in its peculiar effects upon the human economy;"—that *the iodides of carbon*, so far as examined, have an action peculiar to themselves;"—that in those metallic iodides which were submitted to examination, the preponderance of power is on the side of the bases. Mr. Lord, V.S., Doncaster, has used in the form of ointment the biniodide or deuto-ioduret of mercury, with very promising success; Mr. Surnek, of Hereford, has likewise given it a trial; and to these respectable authorities the writer of this can satisfactorily add his own: all the evidence tending to shew that this medicine is likely to prove—externally, if not internally—a highly valuable remedy in the hands of the scientific veterinarian. Even in the proportion of half a

drachm to the ounce of lard, it will, by a single inunction, produce as full and complete vesication as any blister of cantharides: indeed, so potent is an ointment composed of it, that we have in our own practice, for the present, reduced its strength down to gr. x ad ʒj. For spavins, splents, curbs, and tumours, and enlargements—callous especially—of all kinds, it promises to be of essential service.

Every veterinarian who is anxious to obtain a knowledge of the present state of medical science relating to the subject of iodine, must peruse the practical and useful "Essay" of Mr. Cogswell.

HORSE-TAMING; *being an Account of the successful Application, in two recent Experiments made in England, of the expeditious Method of Taming Horses, as practised by the Red Indians of North America, communicated by* ALEXANDER JOHN ELLIS, *B. A., of Trinity College, Cambridge.* Oxley, Windsor.

THE author of this little work was on a visit in the North Riding of Yorkshire. Mr. Catlin's interesting Tour of his Travels among the wildest Tribes of North American Indians lay on the table. Among other things that excited the attention of the party was an account of the manner of hunting the buffalo calf. This animal, when overtaken or found in its lair, struggles desperately for awhile, and it is dangerous to come too near to him; but, when he is a little conquered, the hunter breathes a few strong breaths into its nostrils, "after which," says Mr. Catlin, "I have, with my hunting companions, ridden several miles to our encampment with several of these little prisoners busily following the heels of our horses the whole way, as closely and affectionately as instinct would attach them to the company of their dam."

Mr. Ellis, in the kindness of his heart, inquires how this may be brought to bear on the cause of "Humanity to Animals," and he recommends the account of Mr. Catlin "to the serious consideration of all persons who are engaged in the very troublesome duty of driving calves to and from market or to the slaughter-house. What labour," says he, "might be saved by a minute's breathing time."

In the second volume of Mr. Catlin's was an addition to the history of the *laso* that is perfectly new to us. The Indian coils his laso on his arm, and gallops fearlessly into the herd of wild horses. He soon gets it over the neck of one of the number, when he instantly dismounts, leaving his own horse, and runs as fast as he can, letting the laso pass out gradually and carefully

through his hands, until the horse falls for want of breath, and lies helpless on the ground. The Indian advances slowly towards the horse's head, keeping the laso tight upon his neck, until he fastens a pair of hobbles on the animal's two fore feet, and also loosens the laso, giving the horse a chance to breathe, and passing a noose round the under jaw, by which he gets great power over the affrighted animal, that is rearing and plunging when it gets breath, and by which, as he advances hand over hand towards the horse's nose, he is able to hold it down, and prevent it from throwing itself over on its back. By this means he gradually advances, until he is able to place his hand on the animal's nose and over its eyes, and, at length, to breathe into its nostrils, when it soon becomes docile and conquered; so that he has little else to do than to remove the hobbles from its feet, and lead or ride it to the camp. The animal is so completely conquered, that it submits quietly ever after, and is led or rode away with very little difficulty."

Mr. Ellis soon had the opportunity of putting the veracity of this account to the test. His brother-in-law had a filly, not yet a year old, that had been removed from her dam three months before, and since that time had not been taken out of the stable. A great amateur in every thing relating to horses was present, and at his request it was determined that the experiment of the efficacy of breathing into the nostrils should be immediately put to the test. The filly was brought from the stable, the amateur leading her by the halter. She was quite wild, and bolted and dragged the amateur a considerable distance. He had been using a short halter; he changed it for a longer one, and was then able to lead the little scared thing to the front of the house. The experiment was tried under manifest disadvantage, for the filly was in the open air, several strangers were about her, and both the owner and the amateur were seeking rather amusement from the failure than knowledge from the success of their experiment.

The filly was restive and frightened, and with great difficulty the owner managed to cover her eyes. At length he succeeded, and *blew* into the nostrils. No particular effect seemed to follow. He then *breathed* into her nostrils, and the moment he did so, the filly, who had very much resisted having her eyes blindfolded and had been very restive, stood perfectly still and trembled. From that time she became very tractable. The amateur also breathed into her nostrils, and she evidently enjoyed it, and kept putting up her nose to receive the breath.

On the following day she was led out again. She followed the amateur about with a loose halter. She was perfectly tractable, and it seemed to be almost impossible to frighten her.

While the last experiments were being tried on the yearling, W. espied B——,* a farmer and tenant of M——, with several men, at the distance of some fields, trying, most ineffectually, on the old system, to break-in a horse. W. proposed to go down and shew him what effect had been produced on the yearling. The rest agreed, and W., M., and E. proceeded towards B., W. leading the yearling. On their way they had to lead her over a brook, which she passed after a little persuasion, and *without force*. One of the fields through which she had to pass contained four horses, three of which trotted up and surrounded her; but she did not become in the least degree restive, or desirous of getting loose. When the party arrived at the spot, they found that B. and his men had tied their filly short up to a tree in the corner of the field, one side of which was walled, and the other hedged in. W. now delivered the yearling up to M., and proposed to B. to endeavour to tame his horse after the new method. B. who was aware of the character of his horse, anxiously warned W. not to approach it, cautioning him especially against the fore-feet, asserting that the horse would rear and strike him with the fore-feet, as it had himself just before they had come up. W., therefore, proceeded very cautiously. He climbed the wall, and came at the horse through the tree. Immediately upon his touching the halter, the horse pranced about, and finally pulled away with a dogged and stubborn expression, which seemed to bid W. defiance. Taking advantage of this, W. leaned over as far as he could, clinging all the time to the tree with his right hand, and succeeded in breathing into one nostril, without, however, being able to blind the eyes. From that moment all became easy. W., who is very skilful in the management of a horse, coaxed it, and rubbed its face, and breathed from time to time into the nostrils, while the horse offered no resistance. In about ten minutes, W. declared his conviction that the horse was subdued; and he then unfastened it, and to the great and evident astonishment of B., (who had been trying all the morning in vain to gain a mastery over it), led it quietly away with a loose halter. Stopping in the middle of the field, with no one else near, W. quietly walked up to the horse, placed his arm over one eye and his hand over the other, and breathed into the nostrils. It was pleasing to observe how agreeable this operation appeared to the horse, who put up its nose continually to receive the "puff." In this manner W. led the horse through all the fields, in one of which were the four horses already mentioned, who had formerly

* Mr. Ellis has not obtained the consent of his friends to divulge their names in so early a stage of these experiments; but by the letter B, the farmer will be recognized—E, will represent Mr. Ellis—M, the brother-in-law of Mr. Ellis, and W, the amateur.

been the companions of the one just tamed, and who surrounded it, without, however, making it in the least degree restive. At length W. and the horse reached the stable yard. In the presence of M. and E., W. first examined the fore-feet, and then the hind-feet of the horse, who offered no resistance, but while W. was examining the hind-feet, leaned its neck round, and kept nosing W.'s back. He next buckled on a surcingle, and then a saddle, and finally bitted the horse with a rope. During the whole of these operations, the animal did not offer the slightest resistance, nor did it flinch in the least degree. All who witnessed the transaction were astonished at the result obtained. The whole experiment lasted about an hour. It should be mentioned that when B—, to whom W. delivered up the horse, attempted to lead it away, it resisted; whereupon E. recommended B. to breathe into its nostrils. He did so, and the horse followed him easily. The next day, B., who is severe and obstinate, began at this horse in the old method, and belaboured it dreadfully, whereupon the horse very sensibly broke away. This result is important, since it shews that the spirit was subdued, not broken.

These, says Mr. E., are all the experiments he has as yet had the opportunity of either witnessing or hearing the results of, but they are to him perfectly satisfactory. It may be considered over hasty to publish these experiments in their present crude state; but he does so with a view to investigation. The readers will, of course, have heard of the celebrated Irish horse-charmers. They never would communicate the secret, nor allow any one to be with them while they were in the stable taming the horse It is agreed, however, that they approached the head. It is highly probable that the method they employed was analagous to this.

The Communicator has no object but that of benefitting the public in the above communication. The method is not his own, nor has he the merit of having first published it; but he thinks that he is the first who has caused the experiment to be made in England, and the entire success of that experiment induces him to make the present communication, in the hope that he may benefit not only his countrymen by the publication of a simple, easy, and rapid method of performing what was formerly a long, tedious, and difficult process, but also the "puir beasties" themselves, by saving them from the pains and tortures of what is very aptly termed "*breaking*-in." The process, as now presented, is one of great humanity to the horse, as well as ease and economy to the horse owner.

No apology is offered for the length of these extracts, for the selector is contributing to accomplish the benevolent wish of the

author of this work. To a certain extent the experiment has been put to the test: it did not succeed to its full extent. There were, perhaps, too many horses about, and they caused a certain degree of confusion; but it did seem as if some degree of influence had been obtained over the animal.

We leave the matter, however, in the best hands. They who have the amplest means of coming at the truth, and who will spare no labour in accomplishing the task, are at work; and we doubt not that many of our brethren in various districts will avail themselves of the opportunity they possess, and favour us with the result of their experiments. Y.

A CASE OF ABSCESS IN THE WOMB OF A MARE.

By M. Cauderlier, *M.V.*

A mare, eleven years old, was, on the 12th of March, taken to a stallion to be covered. At noon, on the same day, she was continually putting herself in a posture to void her urine, and straining violently. In doing this she voided a considerable quantity of blood.

About five o'clock on that evening I was sent for. I found her disspirited, evidently in a state of suffering, looking round frequently at her left flank, pawing the ground with her hind feet—lying down from time to time, and her pulse hard and wiry. I took from her 8 lbs. of blood, and prescribed a small quantity of mash, with a little gruel.

The symptoms which I had the opportunity of observing, and the account which was given to me of her, enabled me to guess at the nature of the evil; but I would not submit her to any personal examination until the morning.

13*th.*—I examined the vagina, and was astonished at its smallness and little depth. This explained to me the whole matter, and I found on the left side of the neck of the uterus, a rent, nearly two inches and a half in length. The discharge of blood had ceased, and the commencement of adhesive inflammation was visible. In other respects she was in the same agitated condition as on the preceding evening—she ate nothing—drank very little—her belly was slightly inflated—her face, generally, had a contracted appearance—her ears were cold, and her pulse small and accelerated. A mucilaginous injection was thrown into the vagina and rectum.

14*th* and 15*th.*—She appears to be in a slight degree better.

16*th.*—She pulled some hay from her rack, and drank in the whole a couple of gallons of gruel.

17*th.*—She continued to paw the ground—laid herself down

at the end of her halter, directed her muzzle towards the inferior part of the abdomen, and oftener towards the left flank.

18*th.*—Her tongue is dry and contracted—the conjunctiva is becoming of a pale yellow colour—the bowels are constipated—the urine in small quantity, but thick, oily and green—the pulse remains small and accelerated. Give sulphate of soda in a decoction of linseed with honey—continue the injection, and apply a warm lotion to the belly.

19*th.*—No change—continue treatment.

20*th.*—Aggravation of the symptoms. The pulse can scarcely be felt—the tongue is covered with thick mucus, yellow, resembling the skin of a hog—the mouth was lined with the same matter—some ulcerations commencing within the lips. She is now at liberty in the stable—she lies down and gets up frequently, but always with pain, resting often upon her haunches—frequently her back leaning against the wall, and her extremities extending before her—her face, and especially the alæ of the nose, contracted in an extraordinary manner—and every thing seeming to presage approaching death.

21*st.*—Somewhat better. Gruel with æther administered.

22*d*, 23*d*, 24*th.*—In the same state.

25*th.*—Evident amendment. She takes her drink well, and eats a little chaff.

The hand being introduced a second time into the vagina produced violent contractions, during which I felt an enormous fluctuating tumour. Another exploration by the rectum apprised me that it occupied the left side of the uterus. At the same time I felt another flattened tumour, of a smaller size, whose situation sufficiently explained the difficulty of administering the injections, and, at the same time, the impossibily of obtaining the least discharge of fæcal matter; in fact, the intestine was so compressed that my hand, being well oiled, I had much difficulty in removing the obstacle, and extracting a great quantity of excrement, hard and dry, and the removal of which appeared to afford much ease to the poor animal.

These different manœuvres and discoveries could not leave me any doubt of the existence of a considerable *depôt* in the womb, and the necessity of making an opening into it. I therefore provided myself, in my next visit, with a troisquart—an instrument terminating in a point, with three cutting edges at the extremity—and also a sound and a bistoury.

26*th.*—I fixed our patient to the manger, and introduced my hand, well oiled, into the vagina; but after a long examination, and one attempt to plunge my troisquart into the womb, I refrained until I could obtain assistance. The case was a serious one; the operation was urgent, uncertain, and difficult to

accomplish. I therefore requested permission to avail myself of the services of M. Delflache.

27*th.*—I had obtained the consent of the owner, and my estimable friend M. D. kindly gave me his assistance. I told him what I had done, and we resolved, first of all, to repeat my attempt of yesterday and have recourse to the bistoury. We were no more successful than before with the troisquart.

Holding the bistoury, whose point was armed by a button, I pushed it to the extremity of the neck of the uterus, three inches from its base, and, profiting by a sudden expulsive action which then took place, I removed the button, and plunged the point of the instrument into the tumour, and followed this by a second incision more than two inches in length. On withdrawing my hand, nearly three quarts of grumous fœtid matter escaped—the first portion being white, and that which followed of the colour of the lees of wine. This evacuation was followed by more frequent expulsive efforts.

Then, passing to the abscess in the rectum, and finding that it was in a perfectly soft state, I opened it, and obtained nearly a pint and a half of purulent matter, white, and exhaling the odour of rotten cheese, also a pseudo-membranous production, some inches in length and breadth. The contractions, the frequency and the force of which caused us no little disquiet, were lessened by repeated injection of linden-tree-water, and, at the expiration of some hours of suffering, gradually diminished. The mare then set herself to work, and drank a bucketful of gruel, and attempted to get at her litter.

28*th.*—The expulsive efforts are much diminished—the pus continues to run, but always of a bad odour—the tumour seems to be disappearing—the belly remains hard—the rectum is powerfully contracted, and opposes the introduction of the hand—the portion of that intestine situated beyond the abscess forms a kind of pad, and scarcely permits me with the point of my finger to feel the considerable mass of excrement which is above. Mucilaginous lavements, and others with oil, are alternately injected every two hours.

29*th.*—In the same state as yesterday. The animal is continually looking towards her flank, and making useless efforts to evacuate her fæces. The rectum, however, being a little more dilated, I was enabled to overcome the obstacle just mentioned, and extract a great quantity of dung. The relief afforded by this was very great. The injections were from this time less frequent and more efficacious.

30*th.*—The flowing of pus is diminished—the digestive functions are re-established, and she is much better. There is only a slight discharge from the vulva.

April 13*th.*—Sent home perfectly well.

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LECTURES ON HORSES.

By WILLIAM PERCIVALL, *M.R.C.S., Veterinary Surgeon First Life Guards.*

LECTURE IV.

THE LEGS.

"The legs of a horse should have a due proportion in their length and strength to the weight and size of the carcass."—*Farrier's Dictionary.*

A SORT of general division may be made of the component pieces of the animal machine into parts supported and parts supporting, or, as having reference to loco-motion, into parts moved and parts moving. The body or trunk, including the appendage of the head and neck, which we have already considered, constitutes one division, while the four limbs, which we are now about to discourse on, make up the other.

As far as steady and stable support be the object, it will readily be admitted that four legs are better than three, and that two by no means could be made to answer the purpose of four, or even three: a three-legged form stands not so firmly as one with four legs; and though one with two legs may be contrived so as to stand alone, yet the slightest force disturbs its centre of gravity, and it falls; so little power of balancing itself is it found to possess. The three-legged table or stool, from its being circular or triangular, will stand as firmly as though it had four supporters; but the square table or oblong form requires four legs, one at each corner or salient angle, or two at either side, to give it the full and firm support of which by the carpenter's art it proves to be susceptible. Six or eight legs would nothing augment the stability

or safety of the form, and but little its strength: every projecting part has already its prop of support, and the intermediate parts, unless the form be one of extraordinary length, require none. Thus it is with the animal body. Its oblong formation demanded four supporters, two before and two behind: three would not have given it the stability and power of resistance it at present possesses; and again, to have added two legs more, would have nothing increased the security of the standing posture, and but little the powers of support, while loco-motion must by such an addition necessarily have become more or less complicated and impeded.

It is seldom that the horse, while at rest, employs all his legs in maintaining the standing posture: commonly, one of the hind limbs will be found flexed—in a state of relaxation and repose, propping up the body passively only—while the other three remain extended: in this position, changing the flexed hind-leg from time to time, a horse will not only take his rest, but will sleep; no attention of the will or vigil being required to keep him upon his legs. Some horses never lie down—never appear to require recumbent repose.

Another reason why Nature has given four legs to the quadruped, is, that he may be enabled in progression to steadily poise himself upon three of them, while the fourth is in motion off the ground. Not merely in the walk and trot, but even in the gallop, is the action of the legs, both in leaving and coming to the ground, alternate; and though two or three, or even all four feet may be in the air at the same instant of time, they never leave the ground nor alight upon it again simultaneously: by such a mode of action the purposes of progression are excellently served on the one hand, while on the other, the machine experiences no such concussion as it would have done had there existed but three legs, or had two of them come to the ground simultaneously, as is the case sometimes in galloping and leaping.

One advantage more accruing from the gift of four over a less number of legs is, that, having two before and two behind, the quadruped is enabled to use either pair as weapons of defence: the horse can rear or kick against his enemy; indeed, the hind legs may be said to be the horse's especial armaments against his foes. Some animals use their fore-legs in the way we do our arms, having claws instead of hoofs, which serve them after the manner of fingers: this they could not do were they not provided with two hind-legs, upon which they have the power of sitting or supporting themselves while their fore-limbs are otherwise employed.

THE POSITION, as well as the number of the limbs of the quadruped, evinces excellent contrivance of design. Not only

have the limbs to support the body, but they have to carry it from place to place, and at the same time to move themselves under their burthen with more or less velocity. In a three-legged stool, or in a four-legged form or table, the legs are placed at the circumferent parts or projecting angles, as far apart as possible from each other, the objects being to extend the base or standing, and at the same time avoid the risk of the legs coming at any time, from weight imposed too near the edge, within the centre of gravity, and thereby proving incapable of saving the stool or table from upsetting. In these cases stability and strength is all that is required; but in the instance of the vital machine, not only are strength and stability needed, but facility of motion likewise; and extension of the sphere of the base or standing which would have better insured the one would have added difficulties or impediments in the way of the other.

Nature has placed her props of support at the extreme points or salient angles of the animal machine, and longitudinally has extended the sphere of the base, but laterally has narrowed the body, and approximated the limbs, in order that the superincumbent burthen might as little as possible incommode them in their motions forwards and backwards, during progression.

When speaking of the chest, I observed, that the wider that cavity was made, the farther the two fore limbs must necessarily be thrown apart. This cannot fail to have an effect both on the standing and on the progression of the animal. A broad-chested horse—a cart or dray horse—stands more securely than a narrow-chested horse: his base of standing is wider, his props of support being farther removed from the centre of gravity. But, when the machine comes to be moved, the limbs, thus widely separated, will not operate with the same effect as others more directly under the centre of gravity—will not carry their load with the same advantage, nor will they act so straight-forwardly or so harmoniously together. The racer and the cart-horse, the greyhound and the bull-dog, and, among bipeds, the turkey and the goose, as I before stated, strikingly illustrate this point of structure in their make and in the gait or action arising out of it: to mark this difference we have but to compare the straight stealing-onward step of the racer with the round and short step of the dray-horse; the steady smooth canter of the greyhound with the rolling gait of the bull-dog; the pointed parade-like walk of the pea-fowl or the turkey with the waddle of the duck or goose. Nay; I might adduce even the human body—the woman with her broad hips, the man with his straight or narrow ones—to shew what a difference in the gait results from the limbs being thrown apart at the axes of their motions.

LENGTH OF LIMB is likewise to be considered. Short legs are in general preferred, because in themselves they indicate superior strength, and because they, by nature, are associated with depth of chest and carcass, and other signs of stamina and durability; but the long limb possesses advantages in stride and leverage, and therefore, where speed is required, becomes a desirable formation. The length of limb must very much depend on the purpose the animal is destined for: a long leg would be as ill adapted for a cart-horse, or a horse to carry weight, as a short one would be for a racer. In speaking of the body, I observed that the animal must have length, as well as power, to become fleet: "to get over the ground" *length* becomes absolutely necessary in the propelling parts of the machine, and these are the loins and the limbs. To be sure, we do occasionally meet with horses with long limbs and short bodies—the Persian horses I have seen have been of this description; but such are rare and undesirable conformations; the limbs, as I observed in a former lecture, doing too much for the body, or rather, the latter restricting them in their action. People in general make objection to horses with undue length of limb: such a horse has "too much daylight underneath him to be good for any thing" is a common expression enough in these cases; and, *primâ facie*—and in nine cases, perhaps, out of ten—these people are correct in their disapprobation. But, every now and then comes a horse before us with all this apparent objectionable and sub-corporeal "daylight," and yet with extraordinary power in his long limbs, with circularity in his chest though it be not deep, and with the known character of being "a good feeder after work;" and when such a horse does present himself, we may, should he possess breeding, regard him, notwithstanding his long legs and light body, as an animal of a rare and valuable description. His legs have but little to carry in himself, are therefore likely to "wear well;" but what is of the greatest consequence as a hunter or racer, he is likely to prove a fleet horse, and withal a good-winded horse. I have known horses whom, looking at their "herring guts" and long legs, nobody would have purchased, and yet, from their being in possession of the qualities hereinbefore mentioned, that have turned out most valuable acquisitions. I mention these facts to shew that one ought not hastily to reject a horse with long limbs and their frequent accompaniment, a narrow carcass.

THE FORE-LEGS.

The two fore-limbs—*extremities*, as they are often called by professional persons—differ essentially from the hind ones in their superstructures; though their lower members and their pedestals

are similar one to another. There is no resemblance, for instance, between the shoulders and the haunches, little between the arms and the thighs; but below the knees and hocks, all the four legs are constituted alike. The divisions of the fore-extremity are, the *shoulder*, the *arm*, the *cannon*, the *pastern*, the *coronet*, and the *foot:* the joints are, the *shoulder-joint*, the *elbow-joint*, the *knee*, the *fetlock*, the *pastern-joint*, the *navicular-joint*, and the *coffin-joint*. Each fore-limb is composed of twenty-one pieces or separate bones:—two compose the shoulder, the *scapula* or blade-bone and the *humerus;* two, the arm, the *radius* and the *ulna;* eight small bones, the knee; three, the leg, the *cannon* and two *splint-bones;* two, the fetlock, the *sesamoid-bones;* one, the pastern, the *pastern-bone;* one, the coronet, the *coronet-bone;* and two, the foot, the *coffin* and the *navicular-bone*. Some of these bones are long, some short; some are cylindroid, some flattened in shape; some are obliquely, others perpendicularly placed: all are connected one to another in such manner as to form sorts of hinges or *joints* between them, from which they derive various kinds and degrees of motion.

Viewing the bones of the fore-limb in their natural position we find that, instead of its component pieces being ranged in perpendicular lines, one upon the other, some of them form angles with each other, while others descend in straight lines, direct from the body towards the ground. The two bones composing the shoulder, for instance, are angularly disposed; the arm and cannon bones constitute straight shafts of support; but the pasterns strike off in an oblique direction, at an obtuse angle, and thus convey the superincumbent weight to the ground. This peculiarity in the direction given to the different bones we shall find has its uses. One grand object to be accomplished in the formation of the limbs was, to save them from the effects of the concussion which, in sustaining so great a weight as the body in action, occasionally surcharged too with a burthen in addition, must otherwise have fractured their component bones; nay, crushed such as are of a fragile texture into pieces. Another object, in the angular formation of the pasterns, has been, as we shall discover hereafter, to enable them, in a measure, to compensate for all absence of any thing like foot-hold property in the hoofs of the horse.

The Shoulder.

No individual part of the animal frame, in the estimation of horse-people, calls for greater demands on their judgment than this: a good or a bad shoulder is held to be of paramount import-

ance to the animal's riding and going in such a form as is pleasant to his rider, and as tells in action and safety as regards himself. The connoisseur steps up to the horse for sale, in his stall, and by simply carrying his eye over his shoulder and placing his hand upon his withers, determines at once his qualifications, either for saddle or harness, and whether he be such a nag as is likely to suit him for the purposes he requires. Before, however, I attempt to shew by what art this "judge of horses" so summarily and surely comes to this point of discernment, it will be necessary for us, first, to dissect the shoulder and examine its component parts; and, subsequently, to endeavour to analyze and understand its action in progression.

In the skeleton, the shoulder consists of two bones—the *scapula* and the *humerus*. The scapula or blade-bone—the same that we find in a shoulder of mutton—is the proper shoulder-bone; the only one in man and the monkey-tribe which constitutes the shoulder; the humerus being—as its name indicates—the *arm* bone: in the horse, however, and in other quadrupeds, both bones go to the formation of the part we call the shoulder. Although, in an anatomical point of view, the fore leg of the quadruped corresponds with the arm of a man or a monkey, yet are there such differences in their structure as we might expect to find from knowing how vastly unlike they are in their economy: the arm of the quadruped, in fact, becomes a leg; the hand, a foot; and the offices of both altogether transposed. A man has it in his power to crawl or walk upon his hands and feet somewhat after the manner of a quadruped; a monkey does so by nature, at the same time that he possesses the power, to a certain degree, of erecting himself and walking upon two legs like a man, and using his fore limbs after the manner of arms: although, however, the monkey makes use of his upper or anterior extremities in this double capacity, neither in progression nor manipulation is he any thing like so perfect as quadrupeds on the one side and man on the other. It is the projecture of the humerus from the body—its connexion with the trunk by the head alone—which, with a somewhat different formation of joint between it and the scapula, enables the bone to perform all the various motions we see the arm of a man capable of: whereas, confined and bound to the sides of the ribs, as we behold it in the quadruped, it is simply susceptible of bending backwards and forwards, or, at least, of very little other kind of motion.

The scapula, being a broad flat bone, presents two large surfaces; an inner one, which is uniform and smooth, and a little excavated in order to adapt it the better to the convexities of the arches of the ribs, against which it is applied; and an outer one,

having a longitudinal ridge running upon it, unequally dividing it into two smaller surfaces. Between the scapula and the ribs there is no joint—neither osseous nor ligamentary connexion, but only a fleshy one: muscles alone attach the shoulders to the body; and as the body is supported anteriorly by the fore limbs, it follows that thus much of the weight is borne by muscular action, or, at least, by muscles becomes transmitted to the legs or pillars of support. A man by passing a knife between the scapula and the ribs would easily sever these fleshy attachments, and in this manner let fall the fore part of the trunk, and the head and neck along with it, to the ground. This constitutes the essential difference in their relations with the body between the fore and hind extremities: while the latter are connected to the trunk and support the hind parts of it through the medium of joints, the former hold the body suspended, as it were, between them through the intervention of muscle.

The scapula is a bone of a triangular shape, having two long sides and one short; the latter, known as its *base*, being *in situ* turned upwards; its opponent angle, obtruncated and corresponding to the apex, being turned downwards. The position of the bone in relation to the body is oblique: its basis lies as far back as against the seventh rib, while its apex is protruding forward enough to be opposed to the first rib: at least this appears to be the common situation of the bone, it being evident that any increase or decrease of obliquity must alter its relative apposition as regards the ribs. We see horses with oblique shoulders and with straight or upright shoulders, and we shall find that the scapula varies in its degree of inclination very materially in these two cases; and this is one especial point on which depends the "goodness" or "badness" of the horse's shoulder. Before, however, we can comprehend the advantages and disadvantages of certain positions of the scapula, it will be necessary for us to examine, both in and out of its situation, the other component bone of the shoulder—the *humerus*.

This is one of that class of bones termed *cylindrical*, and cylindroid, though irregularly shaped, it is. It is surmounted by a spherical top, whose surface, the segment of a globe, is smooth and polished, evidently for the purpose of playing, after the manner of a spherical hinge, within a cup-like concavity occupying the place of the apex of the scapula. There are no two bones in the skeleton whose articular connexion is of a nature to admit more varied and extensive motion than exists between the scapula and the humerus. Let a man take a horse's fore-leg in his arms, and he will find that he can not merely bring it forward and carry it backward, but can

also, to a considerable extent, make it perform a sort of rotatory motion: all which, the latter especially, he is enabled to do in consequence of the mobility existing in the joint forward between the ball or head of the humerus and the socket in the lower end of the scapula.

The power of throwing the leg outwards or inwards in action, of turning the toe out or in, of performing those motions in the manege called *passaging* or *shouldering-in*, all resides in the rotatory motion possessed by this joint.

Viewing the relative positions of the bones of the fore-limb in the standing posture, we perceive that the two composing the shoulder constitute, *in situ*, an angle of an obtuse character, having two sides; a superior, formed by the scapula; an inferior and shorter one, by the humerus: the point of the angle being turned forwards. This oblique or angular arrangement is attended with several manifest advantages. A larger extent of surface upon the side of the body is occupied and embraced by the bones so disposed, thus affording more extensive and firmer attachment of the limb to the trunk. At the same time that this angular apposition better ensures their connexion with the ribs, it likewise affords the bones facility of motion upon each other, without risk of disseveration or detachment from the sides of the chest; for the movements of the shoulders, which in action are considerable, have to be carried on, not only while the foot is off the ground, but at a time when all the weight of the body is imposed upon them. Another advantage of the angle is the extensive bordering and powerful leverage offered for the attachment and operation of muscle. Had the bones of the shoulder been placed upright or perpendicularly, one upon the other, in the first place, they could not have been made any thing like their present length; in the second, their connexion with the body would not have been equally secure; and, in the third place, their movements upon each other must have been comparatively restricted, giving rise to something in the form of action in the fore-limbs a great deal worse than that paddling sort of going which we denominate "pinned in the shoulders." This will appear more intelligible after we have shewn what is the nature of the motions or action of the shoulders.

[To be continued.]

THE ANCIENT HISTORY OF THE OX.

By Mr. W. F. Karkeek, *V.S., Truro.*

[Continued from page 15.]

In a previous paper we endeavoured to shew that the bovine race were probably the first created animals belonging to our domesticated mammalia, and we came to this conclusion from certain geological *facts* that cannot be well disputed—their fossil remains having been discovered embedded in strata evidently appertaining to a period far more remote than any of their present contemporaries. We have also numerous proofs that enable us with certainty to ascertain the size of the bovine race at this early period; since their bones in all these localities agree sufficiently—at least as far as our researches extend—to fix their stature to be considerably larger than any of the present domesticated race. The same is the case with the cervidæ; but not so with the equidæ, the remains of the bones of horses not being above the standard of the wild horses of Asia and the middle sized unimproved breeds of the present day. In alluding to the early contemporaries of the ox, we stated that there was a species—the bison—which bore so close a resemblance to him, that, by many persons at the present period, they were supposed to be one and the same animal. It is our intention in this portion of the history of the ox to consider this subject. According to Cuvier, there are two distinct species, each equally ancient: one with slender limbs, resembling the German auroch or American bison; the other with more massive members, like unto our domesticated ox. "But it is only in their fossil state," he says, "that the latter kind can be distinctly traced; and what he considers to be the true urus of the ancients—Cæsar's urus—the original of our domesticated and wild cattle." One of the arguments adduced to support this position is, that the auroch or European bison has fourteen pairs of ribs, whilst the ox has but thirteen. Another reason which induced Cuvier to come to the conclusion was, that the front of the cranium of the ox is nearly flattened, and partly concave, whilst that of the auroch is rounded into convexity. It is square in the ox, its length being nearly equal to its breadth, taking for its base an imaginary line between the orbits. In the aurochs, with the same mode of measurement, it is broader than it is high, in the full proportion of three to one. Again, the horns are attached in the ox to the extremities of the most elevated salient line of the head, that which separates the occiput

from the front; whilst in the aurochs this line is two inches further back than the roots of the horns. The plane of the occiput makes a sharp angle with the front in the ox; this angle is obtuse in the aurochs; and, lastly, the quadrangular plane of the occiput, as it is in the ox, represents a half circle in the aurochs. These are the principal arguments adduced by Cuvier and others to prove that the aurochs of the Germans are of a distinct species from Cæsar's urus.

"Seneca and Pliny clearly distinguished these differences—the latter particularly complains of the vulgarity of applying the name of Bubulus to the present species:—

"Illi cessit atrox Bubulus atque Bison."

Both of these animals are also mentioned in the ancient poem of the Niebelunger, where, in the description of a hunting-match, the hero *Sifrid* slays the *Urus*, the *Bison*, and a fierce Schelch, or stag:—

"Dar nach Schluch er schiere, einen *Wisent* und einen Elch,
Starcher *Ure* viere, und einen grimmen Schelch."

After this he slew straight a Bison and an Elk,
Of strong Uri four, and a fierce Schelch.

From the testimony of Cæsar it may certainly be inferred that the colossal ox, such as is represented by the large skull, both on the Continent and in England—existed in his time. Among the most ancient and celebrated skulls is the one at Warwick Castle, and another in the British Museum. They are nearly all a third larger than the skulls of our present breed—square from the orbits to the occipital crest, somewhat hollow at the forehead, and the horns shewing a peculiar rise from their roots upwards, bending outwards, then forwards and inwards. No domesticated race shews this peculiar turn; but numerous specimens of inferior size, found fossil in some of the tin stream works in Cornwall, have the same shape. The wild cattle of Chillingham Park also partly retain it, and, as we shall have occasion to notice by-and-by, some other breeds.

From what has been stated there cannot be a doubt that our present domesticated breed are descendants from the fossil kind; and the differences observed in the flexures of the horns and other external appearances have been occasioned by alteration of climate, soil, and manner of living: but whether there is sufficient evidence to prove that the bison and urus were originally distinct species, must still be a matter of doubt. There is one strong argument which can be adduced against all that has been here stated, and which throws great doubt on the opinions of Cuvier

and others; viz., that the buffalo and the common cow breed together, and that their progeny are prolific. Again; if the argument adduced by Cuvier is a valid one respecting the number of ribs in the auroch and the urus, the former having fourteen ribs and the ox only thirteen, by the same rule, the German and American buffaloes are proved to be distinct species, since the latter species have fifteen ribs on each side. Yet the American bison has many points of similarity with the German auroch. Both have the huge head and the lengthened spinous process of the vertebræ, and both have the brawny muscles attached to them fitted to support and wield it. In both we have the conical hump between the shoulders as a natural consequence, and the shaggy mane in all seasons; and each presents a model of brute force formed to push and throw down.

We have now given the different opinions on this interesting subject; and although there are great names—by way of authority—in favour of the domesticated ox being a distinct species from the buffalo, yet the immense lapse of time which must have occurred since the first creation of the bovine race, and the alteration which they must have undergone in the different localities in which they have resided are alone sufficient to produce the most extraordinary changes.

In all latitudes—whether on the land or on the sea—like causes produce like effects. Some animals there are confined to particular localities, but others are universally diffused, maintaining certain forms and qualities under every latitude, their peculiar habits and organization adapting them to every variety of clime. With few exceptions, however, locality has a marked and determinate influence on the organic structure, in its quantities and qualities, such almost invariably depending on food and temperature. As an example, there are numerous molluscous orders that attain great size and beauty in tropical waters, but, removed thence into colder seas, they would soon perish, or otherwise their progeny would rapidly degenerate—the organic action, and the powers of secreting lime and other products, being less sensibly developed. Who for a moment would think of transplanting the pearl oyster to the bed of the German ocean? Removed from its native element, it might, perchance, live; but its progeny would be of diminished size, and in the loss of action their splendid colours would be lost. Again; the balani, forming vast aggregate masses on the coast of Peru, are a gigantic species, compared with the like genera existing in the seas of Europe, where they exist in small groups and families.

The coral fish, and other fish of surpassing beauty, are seldom seen beyond latitude thirty degrees and thirty-five degrees north

and south. But we need not go so far for examples;—a review of the breeds of cattle found in the British isles proves the all-powerful law, that like causes produce like effects. This part of our subject must form the principal portion of our third paper.

ON THE COMPARATIVE ADVANTAGES OF RAW AND BOILED GRAIN AS FOOD FOR FARM-HORSES.

By Mr. James Cowie, *V.S., Halkerton Mains, Kincardineshire.*

[Prize Essay of the Highland and Agricultural Society of Scotland.]

Before proceeding to the more practical part of the subject, I would observe, in regard to experiments generally, that they cannot be conducted on too extensive a scale, because, when unforeseen difficulties and inexplicable anomalies present themselves, which often happen in certain circumstances, they may be regarded as probable casualties, which do not affect the general results. Acting on this impression, I put nearly the whole horses in my possession on the experimental feeding desired, viz. four on each of three farms which I occupy. They were divided into three sets, in the following manner:—

First set.

Two horses fed on *cut* barley and beans mixed
Two do. on same quantity and quality *boiled.*
Ages of these were 4, 11; 11, 10, years.

Second set.

Two horses fed on *raw* oats and beans
Two do. on *boiled* do. do.
Ages of these were 8, 11; 11, 12, years.

Third set.

Two horses fed on *raw* oats
Two do. on *boiled* do.
Ages of these were 7, 9; 9, 10, years.

The barley and beans were given in the proportion of four of barley to one of beans. Having no bruising cylinders, I had the grain *cut* at a meal-mill. It was soaked or steeped in water for twelve hours, before being given to the horses; but no more water was applied than what was necessary simply to *damp* the mixture. Each horse received a peck or about sixteen pounds of grain daily, with oat-straw. The weight of the barley was 50 lb., and that of the oats 42 lb. per bushel. The object of the

Highland Society being to ascertain "the comparative merits of *raw* and *boiled* grain," I resolved, in selecting the particular kinds of grain for the experiment, to use those on which horses are usually fed, as more reliance on the results would probably then be placed by the generality of farmers.

It may not be improper here to remark, that, previous to the experiments, I was in the practice of giving my horses one feed each alternately of raw, cut, and boiled grain daily, so that none of them had the disadvantage of a sudden change of diet. In arranging the horses for experiment, I divided them according to their tendency to keep in good or fall into bad condition when hard-worked, as carefully and impartially as I could. At the same time I had reason to believe that, in making the selection, an advantage was given, from certain causes, in favour of those on the *boiled* grain. At each of the three farms I appointed a man to take charge of serving out the food for the horses, and I promised him, as well as the other horsemen, a gratuity, should my directions be scrupulously followed. Having satisfied myself with the preliminary arrangements, my greatest difficulty consisted in the *mode* by which the relative condition of the horses at the beginning and end of the experiments might be ascertained. To have judged from the appearance of the animals, however carefully observed, would have been, at best, but guess-work; and to have measured them would have been liable to error, from various causes. The difference between the first and second measurements might have been so trifling, or so great, that no satisfactory deduction could have been drawn as to the amount of improvement, or extent of falling off, in the animal during the course of the experiments; especially when we take into account the impossibility of thereby ascertaining the internal increase or decrease of the fatty and other matter.

To avoid all these sources of deception and miscalculation, I resolved on having the horses *weighed*, as the best mode by which their condition, and, consequently, the precise effect of the different preparations of the grain, could be ascertained. For this purpose they were weighed in a public weighing machine, about the 1st of March, when they were severally put upon the experimental feeding; and again, about the beginning of May, at which time they were taken off it; a period which, both in regard to length, and as comprehending nearly all the season of hard work, afforded ample opportunity for a satisfactory test. Each set of horses on the three farms was kept at the same kind of work, one man working a pair fed differently, so that no favouritism should be purposely or unintentionally exercised by any party towards the horses, either in their food or their work.

TABLE OF EXPERIMENTS.

Horses fed on	Horses.	Weight on 1st March.	Weight on 1st May.	Loss of weight on *Boiled* Grain.	Loss of weight on *Raw* Grain *Unbruised*	Gain on *Raw* Grain *Bruised.*
		Cwt. qr. lb.	Cwt. qr. lb.	Qr. lb.	Qr. lb.	lb.
Boiled Grain.	1.	11 1 12	10 2 0	3 12	....	..
	2.	10 0 14	9 1 4	3 10	....	..
	3.	11 1 14	10 3 14	2 0	....	..
	4.	10 3 0	10 1 19	1 9	....	..
	5.	11 3 0	11 0 0	3 0	....	..
	6.	11 1 24	11 0 0	1 24	....	..
Raw Grain, unbruised.	7.	10 3 5	10 0 9	....	2 24	..
	8.	10 2 0	9 2 9	....	3 19	..
	9.	10 2 9	10 0 14	....	1 23	..
	10.	9 3 0	9 2 23	....	0 5	..
Raw Grain, bruised or cut.	11.	12 1 4	12 1 14	....	....	10
	12.	10 0 0	10 0 0	....	....	..

By this table the results were as follow :—

Total loss of weight of 6 horses fed on *boiled* grain..... cwt. qr. lb. 3 2 27

Total loss of weight on 4 horses fed on *raw* do..... cwt. qr. lb. 2 0 15

Deduct gain by one horse..... cwt. qr. lb. 0 0 10

Same state one do... 0 0 0

0 0 10

2 0 5

Average loss on each horse fed on boiled grain 0 2 14 nearly

Average loss on each horse fed on raw grain, bruised and unbruised..... 0 1 12 do.

The girths of the horses were taken, but it is not deemed necessary to state them. One or two of the horses fed on boiled grain perspired rather more in their work than the others, and they drank less water. Their dung was a little softer in consistence, but there was no tendency "to purge or become washy." The four horses fed on barley were more severely worked than the others, and therefore required the heavier grain.

It will be seen that horse No. 10 lost only 5 lb., although fed the same as the other three. This is accounted for by the fact, that he usually keeps in better condition than any of the others. If *he* is left out of the calculation, it is found that the average weight lost on both sets of horses, the one fed on *unbruised raw*

and the other on *boiled* grain, is so strikingly near, that, were the one condition of food as easily and economically supplied as the other, it would not matter which was used. The expence, however, independent of the trouble of boiling the grain, amounting to about 1½d. on two feeds for each horse, is such as to render it unadvisable to employ other than raw grain. It is a fact, no doubt, that considerable quantities of grain given in a *raw unprepared state* pass undigested, which afterwards afford food to birds and fowls, or grow on being put into the ground, as I myself have experienced; but it is equally true that much of what is *boiled* likewise passes undigested, though perhaps not in the same proportion. The moist and slippery condition of boiled grain makes it easily swallowed without much mastication; and the pyloric orifice of the stomach leading into the intestines being always open, the grain passes through the stomach before the gastric juice has time to extract the nourishment from it. Besides, it is possible that the farinaceous or saccharine matter in the grain may, in some way, be injured during the process of boiling, and its nutritive properties thereby lessened. The same objection applies to the *steaming* of grain for food, as both seem to resemble each other in their faults and properties. Mr. Stewart, an excellent writer on veterinary subjects, says, "It is matter of indifference whether it be cooked by steam or water."

From these considerations, suggested as they have been by the similar effects which *boiled* and *raw unbruised* grain have in supporting horses, I would call attention to the mode of *bruising* the grain, in preference to either of the ways above described. The husk of oats is a very obdurate integument. It is almost, if not altogether, indigestible; and it is, moreover, not subject, in the form of "sheeled seeds," from the meal-mill, to decomposition, and has not, therefore, been applied to any useful purpose as manure. Why most innkeepers and others prefer to give to their horses oats having a strong thick husk, cannot be accounted for on any principle that can counterbalance the circumstance, that husks, being indigestible, are so much useless matter to animals. The thinner the husks and the larger the kernel, the more nourishment must the grain possess.

Mr. Stewart, in speaking of the waste of grain from indigestion, says,—"In some horses the quantity that passes off entire is very considerable: it has been estimated at one-sixth of all that is eaten. But the quantity is not certain, and there is seldom such a loss as this." I am of opinion that the estimate is quite within the mark. I have already stated, that, with the exception of one, those horses which were fed on boiled and unprepared raw grain lost in weight, during the two months which the ex-

periments lasted, about 70 lb. each; while the two horses which had *cut* grain shewed a very different result, one horse having retained his weight, and the other improved it by 10 lb. 70 lb. weight, either added to or subtracted from an animal of 10 or 12 cwt., has a considerable effect both on his appearance and actual condition. From previous observation and recent calculation, I am convinced that the saving would be very considerable, were the practice adopted of *bruising* or cutting grain to horses, instead of boiling or giving it whole. Reckoning the loss by boiling or giving the grain whole at one-sixth*, we have a saving, by *bruising* the corn, on each horse receiving 16 lb. daily, of nearly 3 qrs. annually; which, on seven horses in that period, amounts to upwards of 20 qrs., or the value, when converted into money, of an ordinary farm-horse.

It is impossible, in the limits of this paper, to enter fully into the inquiry respecting the most proper and economical food for farm-horses; I shall, therefore, only add a few remarks.

In a communication with which Mr. Karkeek, an eminent veterinarian, favoured me, he says, "In an English Farmers' Society, of which I am a member, the subject of the cost of keeping farm-horses during the winter was introduced, and the following experiments were tried. The calculations are made for a single horse per day.

No. 1.	*d.*
10 lb. chaffed straw, at 1*l.* per ton	1
10 lb. of oats, at 3*s.* per bushel	9
16 lb. of turnips, at 10*s.* per ton	1
Expense of cutting and chaffing	0½
	11½

No. 2.	
16 lb. hay, at 3*s.* 6*d.* per cwt	6
5 lb. of oats, at 3*s.* per bushel	4½
16 lb. of turnips, at 10*s.* per ton	1
	11½

No. 3.	
28 lb. of steamed turnips	3½
7 lb. of coals at 1*s.* per bushel	1
Expense of steaming	0½
16 lb. of straw, at 1*l.* per ton	1½
	6½."

* I have heard some practical men estimate the loss at ½d. or ¼th.

He adds—"I can speak positively to the fact, that I have known the last plan, No. 3, pursued, and to succeed remarkably well. It is true, that the horses perspired considerably while at work; but they kept their condition exceedingly well. I have introduced these three plans, because they were highly recommended by several practical farmers."

These details are worthy of consideration. The whole three methods, more especially the last, are on a less expensive scale than almost any to which we are accustomed; and a trial of either of the plans could easily be made on this side of the Tweed.

The ordinary grains on which farm-horses are fed in Angus, Kinkardine, Aberdeen, and the northern counties, are barley and oats. Beans and peas are not much used, probably because they are but partially cultivated. Barley, a feed of which is usually given daily, is boiled along with potatoes or turnips. The oats are most frequently given without any preparation. Barley, by itself, has been objected to, perhaps, without proper trial. Professor Dick says, that it "either purges or deranges the stomach." I certainly cannot coincide in this opinion, as I have occasionally fed my horses on barley *entirely*, without observing any of the bad symptoms alluded to. A change of food, however, is considered by physiologists desirable for preserving the proper tone of the stomach. It is certainly agreeable to the human palate, and should, perhaps, be also to that of the brute. Barley, oats, or beans, may be given separately or mixed. Yellow or Swedish turnips make an excellent addition, and most horses are very fond of them when given in a raw state.

Before concluding, it may be proper to remark, that the *bruised*, and especially the *cut* grain, will not keep long in the open air, as it absorbs moisture, and becomes musty, in which state horses refuse to eat it. A week's exposure in damp weather will more or less injure it. It is known that, in order to keep oatmeal safely, it is put into a "girnel," and well tramped down. The same plan must be followed with *cut* or *bruised* grain, when prepared in large quantities; but it cannot be so firmly pressed together as meal, and, consequently, the air is not so effectually excluded as may be required. The better plan, as far as convenience will permit, is not to bruise more than can be soon consumed.

The cutting of hay and straw is not practised in any agricultural establishment that I know of. Unless the straw-cutter were to be attached to the machinery of the thrashing-mill, and driven along with it (which could be easily done), farmers generally would not be willing to bestow so much manual labour as would be required. The process of cutting, giving sufficient

quantities of the cut material to the horses so that they may neither waste nor want, keeping the manger clean, &c. are all supposed to involve a degree of trouble which not many farm-servants would be disposed to encounter.

The actual saving on cutting hay, and the labour spared the horses in mastication, have been found to be very considerable; and I do not despair of seeing ultimately brought into practice, in every well-regulated farm-establishment, both this and the bruising of oats; believing with Professor Dick, that, before food can yield proper nourishment to the animal, it is necessary that it be minutely broken down and cooked either naturally or artificially. This must be done before digestion can take place; and the more effectually we do this, the more easily and completely will the nutritive parts which the food contains be taken into the system; and by thus almost avoiding the possibility of waste the animal will be supported in the same condition at less cost.

I have only to express a hope, that my observations and experiments may be instrumental in drawing attention to a subject on which I have felt much anxiety and bestowed much pains. It is desirable that a little more attention be devoted to improving the condition, and adding to the comfort, of the often abused, too much neglected, and noblest of all our domesticated quadrupeds; whose docility, active habits, strength, and endurance, render him so available to the purposes of the agriculturist.

[It is with unfeigned pleasure that we insert this "Prize Essay." The subject is an important one as regards the agriculturist in every part of the kingdom—it is admirably treated, and the prize was justly bestowed by the Agricultural Society of Scotland.

One of the Editors of this periodical feels peculiar interest in the affair. He has not forgotten that he had the honour to rank Mr. Cowie among his pupils, and that at a time when it required some moral courage to acknowledge as a preceptor the falsely supposed enemy of the English veterinary school. It gives him unfeigned pleasure to see that pupil still treading the path to which he had ever aimed to direct the attention of his class—the identification of the study and practice of the veterinary surgeon with the interest and welfare of the agriculturist. Thus will our art be more highly and deservedly valued, and the nonsensical and injurious alienation and suspicion too often now prevalent be for ever banished.—Y.]

ON EMETIN.

By Hugh Ferguson, *Esq.*, *Temple.*

[We avail ourselves of the kind but unasked permission of the author to insert the following essay.]

Experience and attentive observation, some years past, induced me to doubt the propriety of having recourse to aloes as a general remedial agent for reducing the inflammatory diseases affecting the principal respiratory organs of the horse. Aware of this drug being so strenuously recommended by the London Veterinary College as the safest nauseant that could be adopted in the practice of equine medicine, I instituted a number of experiments for the purpose of testing its efficacy in that character. The result of my investigations on the horse and other animals clearly demonstrated that the listless and languid state of the patient, resulting from the exhibition of aloes, was more a symptom consequent on the localized irritation produced on the intestinal mucous membrane, than of any specific effect on the nervous system through the medium of the circulation, and thereby exciting a true nausea, or tendency to vomit; thus establishing in my mind a marked physiological difference between the therapeutical operation of a nauseant and the languid listlessness produced by aloes. The *modus operandi* of the one is quite at variance with that of the other: aloes in every dose having a tendency to increase the intestinal peristaltic motion in the natural direction from the stomach towards the anus; the intensity of the cathartic effect being, in a great measure, regulated by the dose; and nauseants, on the contrary, tending to reverse the order of the intestinal peristaltic motion, and, when excess of this effect is produced, vomition is the result in those animals the formation of whose stomachs admits of the gastric contents being expelled by the œsophagus. Thus, the principal effect produced by the exhibition of the generality of emetic substances is diametrically opposed to that resulting from aloes. When given in a small dose they produce nausea, from being absorbed into the circulatory system by the veins and other vessels which carry their contents towards the heart, thus acting on the nervous system through the medium of the circulation; the intensity of the result, from a trifling nausea to the most violent vomition, being regulated by the degree of impression produced on the nervous system. If the dose be small in proportion to the animal's power of resisting the action of the medicinal agent employed, the pe-

culiar sensation termed nausea will be but trifling; sometimes so slight as to be inappreciable to the observer. Between this state and vomition every variety of intensity may be produced by the proper regulation of the dose, providing the existing condition of the animal be the same. If the effect be carried beyond a certain extent, the respiratory system of muscles sympathize with the digestive; involuntary or spasmodic contraction takes place of those concerned in vomition, and an oral expulsion of the gastric contents, or violent retching, is the result. Continued nausea produces a more permanent impression on the system than the most violent vomition. Some of the salts of copper, when given in a sufficient dose to the human subject, act almost instantaneously, and with the greatest violence; leading to the conclusion that they are *direct* emetics, or are not absorbed into the system previous to their effect, which, although intense, is of so short duration, that the system, when the contents of the stomach have been discharged, and the retching has ceased, feels but little impression remaining, except that resulting from the spasmodic exertion of those parts of the muscular system which were concerned in the act. I do not deem it necessary that I should describe the sensation of nausea, that being irrelevant to my present purpose. The effect of nausea on the animal economy, in a physio-pathological point of view, had, perhaps, be better perfectly understood. Nausea, no matter how produced, whether mentally, sympathetically, or medicinally, diminishes the vital action of the system, lowering the circulation and intensity of every animal force throughout the frame. Although some of the secretions may be increased by nausea, yet this must, generally, be regarded as symptomatic of the debility produced: cold sweats offer a familiar exemplification of this fact. Some secretions may be increased sympathetically, as when the salivary glands sympathize with the derangement of the stomach. Nausea acts on the animal system as a diffuse sedative. As such, the practitioner of medicine has recourse to its assistance for prostrating those diseases either attendant or consequent on increased action, or what is better understood by the term inflammatory. The distinction now becomes more evident between the effects of what I denominate *true nausea,* and the derangement consequent on the exhibition of aloes. To the cursory observer they certainly may appear the same, when observed in the chief patient of the veterinary surgeon. A horse suffering from the repeated exhibition of aloes, in doses not sufficiently great to produce purgation, may seem dull and listless; have the head drooped, the eye languid, the surface of the body cold, and refuse to take either food or water. Another animal of the same species may present

similar symptoms, but from a cause quite different; a medicine having been administered to him, the therapeutical effects of which resemble aloes only by the presence of a few symptoms which attend the operation of both—a fact really unworthy of consideration, excepting to serve as an illustrative example of the fallacy of depending entirely on mere external symptoms for the discovery of what is going on within the complicated fabric of a living animal. Were brutes endowed with speech, they could give expression to their different sensations. The self-sufficient quack would then no longer confound the action of aloes with that of a true medicinal nauseant, and, also, be at once convinced of the prevailing error of determining, that a similarity of prominent symptoms proves the identity of therapeutical effects produced on the system by different medicinal agents. How often are horses, when affected with gastro-intestinal or hepatic irritation, observed to evince all the external indications of nausea, when the derangement is not sufficiently great to induce the ordinary symptoms of abdominal pain! Aloes certainly deranges the digestive functions, and to such an extent as to destroy the appetite; but no person acquainted with therapeutics would ever dream of classing it under the head of emetics. There are few medicines which may not occasionally produce vomition in those animals to whom that power is not denied by physiological peculiarity. Although it appears that aloes, notwithstanding its passage through the stomach and small intestines, principally acts on the terminating divisions of the intestinal canal, yet no matter how exhibited, it generally seems to have the same effect. I have frequently observed the laxative effects of this drug when it has been applied to an extensively ulcerated or granulating surface, whether in the form of tincture or powder. This fact argues in favour of its being absorbed, and acting on the mucous membrane of the intestines, through the medium of the circulation. Its action, however, is, unfortunately, not always confined to the intestinal mucous tissue; but when bronchitis, or other pulmonary inflammation exists, too frequently it is extended to the mucous membrane of the bronchi, and affects it in a manner which experience has taught me is decidedly inimical to recovery. When this happens, the beneficial effects resulting from opening the bowels are much more than counterbalanced by the increased irritation of the bronchi. There are, however, some cases of inflammation affecting the respiratory apparatus in which the exhibition of aloes is admissible. The judgment of the practitioner, therefore, must be skilfully exercised for their selection. He must weigh well the different circumstances of the case before

he comes to a decision. As to fixed and unalterable rules in the practice of medicine, there can be none.

A few years past, tartarized antimony was a favourite medicine for the horse affected with pulmonary disease; but, like other old-fashioned preparations, it fell into disrepute with the modern hippiatrists. I, however, having, during a long course of observation in the wards of an hospital, remarked the beneficial effects of its exhibition in cases of bronchial and other pulmonary disease, determined on testing its efficacy in similar maladies affecting the horse; and the results of my experience have led me to conclude, that it is a medicine eminently calculated to combat pulmonary disease. Administered in small and often-repeated doses, it produces the most intense nausea. Its action when exhibited in solution is most rapid. When dissolved in water and given as a draught, on being swallowed it passes quickly through the stomach and small intestines into the cæcum, from which division of the alimentary tube it is in an incredibly short time absorbed. Circulating with the nutrient fluid throughout the frame, it acts on the nervous centres, producing, when given in a sufficient quantity, intense nausea. Being a most excellent expectorant, it exerts its influence on the respiratory mucous membranes, increasing their secretion, although at the same time diminishing the morbidly increased circulatory action of the system generally, consequent on, or causing the inflammation of, whatever part of the pulmonary apparatus is affected. Tartar-emetic in some instances, also, increases the capillary action of the skin, producing a tendency to diaphoresis. I have seen it act as a diuretic, and almost invariably found that its often repeated and continued exhibition produces marked laxative effects. Yet its specific effect, when regarded as inimical to life, in a dose sufficiently large to produce death in a previously healthy animal, is most decidedly on the bronchial mucous membrane and parenchymatous structure of the lungs, producing in these tissues the most intense inflammation, whether it be received into the system through the medium of the digestive organs, or brought in immediate contact with the circulating fluid by being injected into the veins. This fact indicates the great necessity of guarding against an over-dose of this drug in pulmonary inflammation.

Having frequently observed fatal results from the continued use of tartarized antimony in protracted pulmonary disease, accompanied by gastro-intestinal irritation, and also having found that in many instances the intestines being morbidly susceptible of impression it induced this irritability, I attributed this unpleasant result, in some measure, to the irritating effects of the me-

dicine by *direct contact* with the mucous membrane; arguing that any thing capable of producing pustular eruption by its application to the external surface of the body, might reasonably be supposed to highly irritate a mucous membrane when brought in contact with its organized villi. On this account, partly, I deem it desirable that tartarized antimony should be given in solution. Independent of its action being more rapid when given in this manner, its powers as a direct local irritant are diminished by its being diluted in a large quantity of fluid. When given in the form of a ball, it passes from the stomach through the intestines in its most concentrated form, and, during its solution in that viscus, is likely, by its presence and irritating qualities, to impair the functions of that organ.

Thinking it desirable to have some agent that would not produce those irritating effects to such an extent on the intestinal mucous membrane, but at the same time possessed the nauseating, sedative, and expectorant properties of tartar-emetic, I directed my attention towards EMETIN, the active agent of that invaluable expectorant and emetic for the human subject—ipecacuanha; and I found it capable of producing greater sedative and nauseating effects on the horse than tartarized antimony, without being accompanied by the dangerous intestinal irritation which too often attends the continued exhibition of the latter medicine. Its laxative effects on the digestive system were in many instances most decided, but never so great as to produce severe purgation.

I have already had sufficient experience of the superior value of emetin over aloes and tartarized antimony as a medicinal agent possessing the combined properties of a sedative, nauseant, and expectorant, to amply justify me in its recommendation to the veterinary profession, as a medicine eminently calculated to form an adjunct to blood-letting and counter-irritation in the treatment of those cases of pulmonary disease in which the exhibition of nauseants is indicated; also, as a superior remedy to tartarized antimony for the reduction of inflammation in almost all the diseases for which that medicine is usually prescribed.

The principal objection to tartarized antimony is, as I have before stated, its tendency, from continued exhibition, to produce inflammation of the intestines—an effect which seldom results from the use of emetin; although, if an over-dose of this substance be administered, evident symptoms of intestinal derangement accompany the violent inflammation of the lungs and bronchi, which latter, if the case prove fatal, is the immediate cause of death.

There are more advantages attending the use of emetin in pre-

ference to tartarized antimony than merely its powerful sedative, nauseating, and expectorant qualities. Emetin acts more powerfully on the skin, and also has a decidedly narcotic effect. The quantity given in each dose must be regulated by many circumstances peculiar to the case, such as the age and strength of the animal, the disease, its stage, &c.

There are so many impure preparations of emetin, that, previous to determining the dose, the strength of that selected for the purpose of compounding from must be accurately ascertained. I generally have recourse to ten-grain doses, often repeated. There are, however, many cases in which it would be desirable to give a much larger quantity. But it not being my intention, at present, to do more than direct the veterinary profession to the general efficacy of emetin, I shall not enter into the minute particulars necessary to be understood for its judicious exhibition in each peculiar case, but leave veterinary surgeons to try its efficacy in different doses, by the way of experiment: in doing which, however, I suggest that the vehicle of giving such a medicinal agent in a solid state should be perfectly free from oily matter, as its being combined with such retards the solution of the bolus in the stomach.

Nauseants, however valuable as remedial agents in the human subject, are considerably more so in the horse, to whom the power of vomition being denied, nausea can be carried to the fullest extent, without rendering the patient liable to the dangerous consequences resulting from violent reversed action of the digestive organs, when the system is much debilitated by protracted disease. Notwithstanding the many advantages which emetin offers over tartarized antimony, this latter medicine has one over it, which must not be forgotten, it being of no trifling consequence in the treatment of some peculiar cases. The advantage to which I allude, is the facility with which tartarized antimony can be given in the form of a draught, or mixed with the animal's food; it being a medicine so devoid of taste, that the animal, if inclined either to eat or drink, will not decline the matters offered for the satiation of either appetite, even when they are made the vehicles of a large dose of the medicine in question. Emetin, having rather a bitter taste, must be given in the form either of a bolus or draught. It is worthy of remark, that I have frequently produced nausea in the horse and other animals by administering it per ano.

CAN THE MALE EXERT ANY INFLUENCE ON THE DURATION OF THE FŒTUS IN UTERO?

By J. C. Hall, *M.D.*, *Retford.*

My attention was drawn to this subject a few weeks ago, during a professional visit to the Earl Spencer. His lordship has paid considerable attention to the subject of gestation, and has already written one or two papers replete with facts, I venture to assert, no other man in England could furnish. He asked me "if I thought the bull could exert an influence on the duration of the calf in the uterus of the cow, and if I could remember any work in which the author had mentioned this curious fact?" At the same time, he informed me that "one of his bulls seemed to exert some influence of this nature, for the cows in calf to him went some days longer than those in calf to other bulls." I replied, that I was not aware of any writer who had observed the same thing, and that I would mention the circumstance to a professional friend. I accordingly wrote to Dr. R. Lee, Lecturer on Midwifery at St. George's Hospital, and from him received the following answer:—

"My dear Sir,—The influence of the male parent in the duration of utero-gestation is a very curious fact, and I am not aware that it has been noticed by any one previous to you. I think it so important, that you ought, as soon as you can arrange the observations, to publish the whole. I cannot find any allusion to the influence of the male parent upon the duration of pregnancy in the lower animals by Tessier, and think it would be proper, before stating this, to consult his papers. I am very much engaged at present, but hope soon to be sufficiently at leisure to render you any assistance in my power, the doing of which will afford me the greatest pleasure. I have mentioned the fact stated in your letter to several friends, and they have all been very much struck with it.—I remain, &c."

On receiving the above letter from Dr. Lee, confirming the opinion I had before expressed to Earl Spencer, I requested his lordship to furnish me with a statement of the facts he had observed. He kindly did so, and I now give them in his lordship's own words:—

"Upon taking," writes Earl Spencer, "an average of seven hundred and sixty-four different periods of gestation of cows, I found that two hundred and eighty-four or two hundred and eighty-five days ought to be considered the usual period. The

male animal by whom the cow was impregnated did not appear to have any influence up to the time at which this average was taken; but in the autumn of 1840, I bought a bull, which I had sold as a calf in the spring of 1836, and the calves by him were first dropped in the beginning of last August: since then I have had sixteen calves by him, and, to my surprise, have found that the average period of gestation of the dams of these sixteen calves was two hundred and ninety and a quarter days. Upon this I applied to the gentleman who had bought the bull from me, and from whom I had bought him back, to let me have the period of gestation of each of the cows who bred calves by this bull while he had him in his possession, and he sent me an account of the respective periods of the gestation of fifty-nine cows in calf by this bull, and I find that the average period was two hundred and eighty-eight days; and if you add to the periods of gestation of these fifty-nine, the periods of gestation of the sixteen which have occurred since he has been in my possession, the average of the whole seventy-five is two hundred and eighty-eight days and a half.

"It appears therefore quite clear," continues his lordship, "that cows in calf to this bull, on the average, are about *four days longer before they calve* than those in calf to other bulls. It appears also that of the 764 cows on which I formed my average in my own herd from a great many different bulls, 185 went less than 281 days, while not one of the 75 cows in calf to this bull have done so. On the other hand, of the 764 cows 111 went above 289 days, or rather more than one-seventh of the number; while by this bull 29 out of the 75 went above 289 days, or between one-third and one-half."

Since the above was written his lordship has given me the average period of gestation in 931 cows in calf to other bulls, and of 79 cows in calf to the bull in which this peculiarity was first observed; from which it appears perfectly clear that the duration of pregnancy in cows put to this animal is, on an average, *four or five days longer* than in other bulls. This being the case, it is impossible to account for the fact in any other way than by answering the question proposed at the commencement of this investigation affirmatively, and by concluding that the male can influence the duration of the fœtus in utero.

AN ACCOUNT OF A GRUB IN THE CEREBELLUM OF A HORSE.

By Mr. J. Rose, *V.S., Worcester.*

On the 2d of July, 1828, I was requested to attend a three-year-old colt, labouring under the following symptoms:—

Loss of voluntary power of the left extremities, therefore unable to stand without support—inclination of the head to the same side—an oblique direction of the eyes—no delirium—pulse 60—breathing little interrupted—fæces and urine passed without difficulty—extremities and skin warm—and the animal eating when food was lifted to his mouth. No external injury could be detected.

There was little variation in the symptoms until the 11th, when, on endeavouring to raise him, he died.

Treatment. — Repeated general and local bleeding, active purging, setons and blisters to the head and neck.

Post-mortem examination, twenty-four hours after death.— On dividing the head from the neck at the first joint, three or four ounces of dark-coloured serous fluid escaped. On removing the covering of the brain, three coagula of blood were seen on the right side of the cerebellum. On raising it, another presented itself, out of which crawled a grub (in size much resembling those taken from nuts, but much more transparent). There was considerable extravasation of blood into the membranes beneath it; also an effusion of the same kind as that already mentioned in the whole cavity of the cranium.

The cerebrum was healthy, excepting that its vessels were more turgid than usual. The contents of the thorax and abdomen were quite healthy.

It may be well to observe, that Mr. Kitsell, surgeon, of Droitwich, was present at the dissection, and that I have the grub in my possession.

ACCOUNT OF A SIMILAR CASE.

By John Tombs, *Esq., V.S., Pershore.*

I subjoin the undermentioned case, which happened in the autumn of the year 1827, as analagous to that of Mr. Rose. I was then assisting my father, who with myself attended the subject in question, which was a brown pony thirteen hands high, the property of Dr. Stenson, Bourton-on-the-Water.

When we first saw the pony, she was lying in a cowshed, in a perfectly helpless state. On inquiry, we were informed by the doctor that the pony had been turned out to grass during the greater part of the summer, and that, the day before we saw her, she was galloping about the field in excellent spirits, and apparently quite well. In the morning she was found lying down, struggling and endeavouring to get up, and was drawn on a gate to the shed.

Symptoms.—She appeared conscious, but had lost all power over the voluntary muscles of the posterior extremities. She could, by dint of very great exertion, partially elevate the fore part of her body. The pulse was 70, and hard. Respiration a little accelerated, and the appetite slightly impaired. When she raised her fore part, and endeavoured to get her hind limbs along, she became convulsed, and immediately lay down again, and gnashed her teeth from intense agony.

We at once recognized a spinal affection, but from what cause we were left entirely in the dark. Dr. Stenson thought the bones of the acetabulum were fractured. On careful examination we could discover no fracture; therefore we treated it, as we should inflammation of the spinal cord and its investing membranes, by venesections, laxatives, enemas, and external stimuli. Our treatment proved inefficacious; and in a fortnight after her first illness it was deemed requisite to destroy her.

On dissection we found the theca vertebralis very much engorged with blood, from the third lumbar vertebra to the fifteenth dorsal one; effusion of serum under the theca, and several small clots of coagulated blood.

Being called away professionally, the doctor and a young surgeon prosecuted the dissection up the spine towards the shoulders, and about the thirteenth dorsal vertebra they discovered a large grub (the size of a common nut) imbedded in the medulla spinalis. They cautiously detached the investing membranes and exposed the grub, which had evidently recently died. The theca was inflamed as high up as the fifth dorsal vertebra. They excised a portion of the spinal marrow, with the grub attached to it, and suspended it in a wide-mouthed bottle, and deposited it in the Museum of the Veterinary College, London, in the following year; where, I believe, it is now.

The late Professor Coleman, I think, once alluded to it, in his Lectures on the Spine, as being a case of great rarity*.

I do not know whether Professor Sewell mentions the case in

* Mr. Spooner, in the meeting of the Veterinary Medical Association, in January 1838, referred to this specimen, as shewing the possibility of paralysis and death from the presence of a worm in the brain.—Y.

his Lectures; if he does, he merely glances at it, and does not enter into the minutiæ of the case, nor acknowledge from what source it came. This is my reason for wishing to rescue the case from obscurity, and make it more public, with that of Mr. Rose, through the medium of THE VETERINARIAN.

The most remarkable feature in these cases is, the sudden and strange effects caused by the grubs, as they, unquestionably, must have been some time growing to such magnitude. The effects were so violent, that death soon terminated the sufferings of the colt; and, undoubtedly, the like result would have taken place with the pony, had she not been destroyed. The grub, or its ova, must have been taken and deposited in the spinal marrow by the medium of the circulation, and nourished and brought to maturity there, as the theca vertebralis was quite perfect; which shews it was impossible to get there by any other means.

These cases have some resemblance to the ascarides found in horses' eyes in India, which are generally supposed to be conveyed to that organ by the arterial system of bloodvessels; but they do not shew their effects so soon. I have seen them floating about in the aqueous humour two or three days previous to inflammation and opacity of the cornea taking place. Happily, we have an excellent remedy for this disease, viz. the lancet.

In reference to worms in the eyes of horses in India, I recollect that I opened a yearling colt that had never been housed, and that died in the field from enteritis, in the year 1825. After opening the animal, I removed the eyes from the orbits in order to dissect them. On inspecting them prior to dissection, I distinctly saw four or five ascarides in the aqueous humour, the cornea being very clear. On cutting through it the worms escaped. This is the only case I have seen or heard of in England, but I have seen a great many in the eyes of deer.

[Hydatids in the spinal cord have been occasional but very unfrequent causes of death, in the first and second years of the life of the sheep. M. Girard relates a case in which the last dorsal vertebra but one was opened in a sheep that seemed to suffer from some spinal or cerebral disease. The cord appeared to be unusually tumefied at this spot, and the theca was no sooner cut than out sprung an ovoid vesicle—an hydatid.

M. Dupuy found one in the middle of the lumbar portion of the spinal cord of a lamb. The only symptom that had been observed was paraplegia.

The only two species of entozoa that have been observed in the nervous centres of the human being are the acephalocysts

and the cysticerci, and they have always been accompanied by paralysis or mania, the former being the most frequent occurrence; but in the brain and spinal cord in the quadruped other entozoa have been occasionally found. Numerous cysticerci have been seen in the pig, either beneath the vascular coat of the brain or imbedded in its substance. In one case no fewer than twenty were contained in the right ventricle of one of these animals*.

The food of the quadruped, cropped from the surface of the ground or rooted out of the earth, may favour the access of entozoa of various kinds, and which, from occasional lesions, may be introduced into the substance of the brain, or beneath the membranes of the spinal cord. Our cases of paralysis terminating fatally should be more carefully examined into than they generally are.

Connected with this subject, the reader may refer, with some pleasure and profit, to the review of Otto's Human and Comparative Pathological Anatomy, in the 10th volume of THE VETERINARIAN, p. 42. With reference to this subject, the admirable papers of M. Bouley on the Diseases of the Spinal Cord, in vol. iii of THE VETERINARIAN, p. 592, and pages 51 and 167 in the 7th volume, may be read with advantage. —Y.]

To the Editors of "The Veterinarian."

ON THE EFFICACY OF THE ERGOT OF RYE.

By JOHN HARRISON, *Esq., M.R.C.S., Chester.*

THE following case, shewing the efficacy of ergot of rye in animals, may be interesting both to you and the readers of THE VETERINARIAN; I therefore send it you, requesting that you will make whatever use of it you may think proper.

My father had a little terrier bitch, which commenced pupping on Thursday last. After disposing of one in the early part of the day, she continued straining and using the most violent exertions until late in the afternoon of the following day, without success in producing more.

At this time she appeared to be worn out, and sinking from exhaustion, frequently fainting, and constantly vomiting; in fact,

* Andral's Pathological Anatomy, vol. ii, p. 780; Otto's Pathological Anatomy, by South, p. 422; Rec. de Med. Vet., Dec. 1829.

she was considered to be moribund, and, to all appearances, was declining fast.

Happening to call at this moment, I suggested the experiment of giving her a little of the ergot, and accordingly two drachms of the tincture were administered to her. In less than twenty minutes afterwards she produced a dead pup, in a state of decomposition; and in the course of the evening, another in the same state, since which time she has been perfectly easy, and has now quite recovered her strength.

It would, perhaps, be as well to add that, on all previous occasions, she had pupped remarkably well, and without any difficulty, but that, since her last litter, she had become remarkably and extraordinarily fat, to which circumstance the difficulty on the present occasion might in some measure be attributed.

Foregate Street, Chester,
May 14, 1842.

THE SINGULAR EFFECT OF WORMS IN THE STOMACH OF A MARE.

By Mr. J. D. Harrison, *V.S.*

I YESTERDAY attended the following case; and as the post-mortem appearances were very unusual, and, to me, unique, a relation of it may prove interesting, and of some utility.

The subject was an aged cart mare, and during the whole time (eighteen months) that she was in her owner's possession had never been a good feeder, and consequently had a lean appearance. About ten or twelve days ago her appetite became worse, and, in the beginning of last week, entirely failed; upon which she had a dose of physic administered last Thursday evening. On Friday it operated. On Saturday morning, the 23d of May, I was called in to see her, she having suffered, apparently from gripes, two or three hours previously to my seeing her. I could not, however, detect the slightest symptom of pain, and found nothing different about the mare than what is generally experienced after a dose of physic has so recently been given.

Yesterday morning she was again found to be suffering violent pain, and, when I saw her, I immediately concluded that it was a case of muco-enteritis. An anodyne draught was then administered, and some blood abstracted from the jugular vein.

During the time her neck was pinning up, I, for the first time,

observed what appeared to be a convulsive or spasmodic action of the œsophagus, and, upon more minutely examining her, found that the action was at intervals repeated; when a substance, apparently as large as my fist, was regurgitated some distance up the œsophagus, and then again as quickly descended towards the stomach.

The diagnosis which I formed from this circumstance was intro-susceptio, or entanglement of some portion of the intestinal tube, and my prognosis was consequently unfavourable.

Under the idea of repressing this effort at vomiting, I gave her a solution ʒiii of gum. opii, which had only the effect of easing her pain, but did not at all moderate the action of the œsophagus, which continued uninterruptedly until the afternoon, when she expired. The body was swollen when I first saw her in the morning, and gradually increased until death ensued.

Upon opening her this morning, the abdominal viscera did not present one-twentieth part of the disease which I fully expected I should find. There was no intro-susceptio, or even entanglement of any kind; neither did the intestines present, externally, as much inflammation as, under all circumstances, I expected that I should have found. Their contents were fluid, and the villous coat was much inflamed.

The stomach was opened, when immediately there flowed from it, along with its other contents, at least twenty teretes, from eight to ten inches in length; but the stomach itself, to my great surprise, was perfectly normal.

I had then the œsophagus laid open through its whole length, thinking that I should find more of these parasites lodged in some parts of its course; but none were found, and its internal coat was altogether healthy.

In this case we have one proof, that vomiting, or an effort to do so, is not truly pathognomonic of intro-susceptio, but that it can exist from other causes. In solving the question how the teretes got into the stomach, I shall merely hazard the opinion that it is very probable that the physic caused a retrograde action of the intestinal tube, and propelled them into the stomach; and the irritation which they caused when introduced there was evidently endeavoured to be counteracted by their violent expulsion, that produced that spasmodic effort to vomit, which, during several hours, was so palpably manifest. This case also conveys to me some pathological deductions, from which I can more clearly trace the effects produced from teretes in a case which I related in The Veterinarian, vol. xiv, p. 530.

REMARKS ON MELANOTIC DEPOSITS.

By Mr. A. J. Poett, *Edinburgh Veterinary College.*

Melanosis is a disease to which few of the veterinary profession have thought proper to allude. This is, certainly, rather singular, for there cannot be an established practitioner who has not met with such cases in the course of his practice: indeed, so usual an occurrence is melanosis, that we find very few old *grey* horses that, after death, have not this deposit upon some part of their bodies.

Melanosis attacks all parts of the frame, external and internal; but the places where it is usually found are the root of the tail or the verge of the anus, and in these places it sometimes accumulates to an enormous size; also about the sheath, and the neck and front of the chest.

Internally, it has been seen in the pericardium resembling *bunches of large black grapes.* The liver becomes completely changed in structure by it. The spleen, lungs, and mesenteric glands, exhibit it; and, in fact, very few organs are exempt from its attack. The most remarkable point connected with melanosis is, that none but grey horses, and, of the different kinds of greys, those of the lightest cast, are its victims.

Professor Dick, when lecturing on this subject, mentioned that he had met with a similar deposit in a bay horse; which case, so far as I know, is solitary. And, I believe, the same gentleman, in a paper on this subject, which was sent to the *Lancet* a few years back, threw out some hints regarding what he thought to be the cause why grey horses alone became affected, and urged the medical profession to endeavour to clear up the mystery; but, as yet, no person has been bold enough to reply. The excuse, I am sure, cannot be its lacking interest, for few subjects would better repay labour than this.

The symptoms of this disease are very unsatisfactory; the following case will illustrate this:—A mare, the property of —— Fell, Esq., of Sudbury, of a whitish grey colour, and advanced in years, was, on the 26th ult., seized with a spontaneous diarrhœa, which continued, despite the astringents administered, until the 29th, when it was checked. My first visit to her was on the morning of the 29th, when I found her pulse 100, and full; the respiration very much quickened; the countenance anxious; frequent pawing; almost incessant straining; and the small quantity of urine which was ejected being bloody.

On the morning of the 30th the pulse had fallen to 90, and

she passed a little fluid fæces; after which the straining ceased. In the evening, however, a relapse took place; the pulse had risen to above 100; the breathing was remarkably quick, and the countenance altogether wild. She died in the course of the night.

The appearances after death were, effusion into the pericardium; vomicæ in the right lung; the corresponding lobe of the liver converted into a melanotic mass; the spleen enormously enlarged; the mesenteric glands a complete carbonaceous deposit; the right kidney wasted; and the mucous coat of the intestines slightly inflamed.

With respect to the treatment to check the purging, astringent drenches were given, and fomentations applied to the belly to rectify the bloody urine. Mucilaginous drinks were administered, and enemata given, with venesection and sedatives, to lower the circulation.

I believe nothing can be done in such cases; yet iodine and its compounds may be tried. When externally situated, excision should be had recourse to; but when the tumour is large the hæmorrhage is troublesome, which will compel us to secure the vessels by ligatures. When they are small and numerous, escharotics will destroy them readily, and none better, perhaps, than the nitrate of silver, either solid or in solution. The bichloride of mercury may also be used with advantage, or they may be touched with any of the mineral acids.

ON THE EDUCATION OF THE VETERINARY PUPIL.

By Mr. J. Hawthorn, *V.S., Kettering.*

In the leading article of The Veterinarian of the 1st of May, I think that the subject of a knowledge of horseshoe-making and putting on, as essential to "veterinary education," is pushed a little too far.

That such knowledge may be an advantage, I do not deny; but that advantage, in very many cases, would be so slight as not to be worth the cost of acquiring. There seems to me but little reason why a veterinary surgeon should be able to make horseshoes and shoe horses, more than that a "surgeon should possess himself of the shoemaker's craft." But if this is an error, why should not a veterinary surgeon know how to make cattle-shoes and put them on? for cattle are his patients as well as horses, and are often lamed by bad shoeing.

In small country towns, where the price of shoeing is low, the veterinary surgeon, being mostly from home, will seldom find the shoeing department pay its expenses; and it will answer his end better to make terms with a respectable smith for the use of his shop.

If a veterinary surgeon is to be able to make shoes and put them on, he ought, I suppose, to do so cleverly; but how much time would this require? Would it not take years? I think it would, especially if, as proposed, the art of nail-making is to be added; and then, without constant practice, how is the hand to be kept in? Surely such knowledge is not "indispensable to the constitution of a duly qualified veterinary surgeon." How many young men never could acquire it! I suppose many veterinary surgeons, who do not keep forges, take apprentices, and such apprentices must serve double time if they are to learn the shoeing trade too; or, suppose that a young man had been studying as a human surgeon, and chose to become a veterinary one, would he not give up all thought of the latter profession if he is to learn to shoe horses and make horse-shoes, to say nothing about horse-nails? Instead of this knowledge being "indispensable to the veterinary surgeon," as such, I think, the necessity of acquiring it forms the exception, and not the rule. Would the late respected Professor Coleman ever have become a veterinary surgeon on the proposed condition?

I cannot but think that, in general, it is a sufficient qualification for a veterinary surgeon, in these matters, that he should understand how the different kinds of horses' feet ought to be shod; of course, he will then know when they are improperly shod. He should also be able to take a shoe off skilfully, and put it on again in a temporary way; and he should be clever in paring out a horse's foot. I can only say that, after a practice of between twenty and thirty years, I have found this amount of knowledge, on this subject, sufficient; but do not mean to say that the amount of knowledge proposed in your leading article is not useful to a certain degree where it happens to be possessed. I kept a forge for many years, and now let it. I know the disadvantages of keeping one in a country practice, and, certainly, shall not keep one again.

I have hastily penned these few observations, I hope in a courteous spirit, and, if you accept them, it will be for what they are worth, and no more; assuring you that I highly esteem the gentleman whose initial is appended to the article here animadverted upon, and I feel certain that he will not require any apology for the liberty I am taking.

OBSERVATIONS ON THE PRESENT INFLUENZA AMONG HORSES, WITH REMARKS ON A TRIAL OF TREATMENT BY MERCURY.

By Mr. William Percivall.

From the close of the past year, and the beginning of the present up to the time I am writing, the influenza among horses has continued to prevail in the metropolis and different parts of the country with more or less fatality. In London it has assumed the form of *laryngitis*, associated in some instances with *bronchitis;* in others—in all, I believe, where it has proved fatal—with pleurisy. The parenchymatous structure of the lungs has not partaken of the disease, or but consecutively and slightly. The earliest and most characteristic symptom has been *sore throat;* causing troublesome dry short cough, but rarely occasioning any difficulty of deglutition, and, in no instance that I have seen, severe or extensive enough to produce any thing like disgorgement or return of the masticated matters through the nose, and yet the slightest pressure on the larynx has excited an act of coughing. But seldom has any glandular enlargement appeared. The symptom secondarily remarkable after the sore throat and cough has been a dispiritedness or dulness, for which most epidemics of the kind are remarkable. The animal, at the time of sickening, has hung his head under the manger, with his eyes half shut, and his lower lip pendant, without evincing any alarm or even much notice, though a person entered his abode or approached him; and if in a box, his head is often found during his illness turned towards the door or window. Fever, without any disturbance of the respiration, has always been present: the pulse has been accelerated, though rather small and weak in its beat than indicative of strength; the mouth has been hot, sometimes burning hot, afterwards moist, and perhaps saponaceous; the skin and extremities in general have been warm. Now and then, the prostration and appearance of debility have been such, and so rapid in their manifestation, that, shortly after being attacked, a horse has staggeringly walked twenty yards only—the distance from his stable into an infirmary-box. The appetite, though impaired much, has seldom been altogether lost. Generally, if a little fresh hay has been offered, it has been taken and eaten; but to mashes there has been commonly great aversion. During the long continuance of the wind in the east, the sore throat and cough have been unattended by any flux from the nose; but, since the wind has shifted within

this last fortnight or three weeks, discharges from the nostrils have appeared, profuse even in quantity and purulent in their nature: in fact, the disease has assumed a more catarrhal character—ergo, I might add, a more favourable one.

The disorder has exhibited every phase and degree of intensity, from the slightest perceivable dulness, which has passed off with, simply, a change in the diet, to an insidious, unyielding, unsubduable pleurisy, ending in hydrothorax, in spite of every thing that could be done, and most timely done. So long as the disease has confined itself to the throat, and that there has been along with that only dejection, prostration, and fever, there has existed no cause for alarm; but, when such symptoms have after some days' continuance not abated, and have, on the contrary, rather increased, and others have arisen which but too well have authorised suspicions that "mischief was brewing in the chest," then there became the strongest reasons for alarm for the safety of the patient. What is now to be done? The practitioner durst not bleed a second time, at least, not generally, for the patient's strength would not endure it, although he is certain a pleurisy is consuming his patient. He possesses no effectual means for topical blood-letting. Neither blisters nor rowels, nor plugs nor setons, will take any effect. Cathartic medicine he must not administer; nauseants are uncertain and doubtful in their efficacy; sedatives, tonics, and stimulants, and narcotics, appear counter-indicated, inflammation existing, and, when tried under such circumstances, have, I believe, never failed to do harm. Dissatisfied with one and all of these remedies in the late influenza—though the losses I have experienced have, after all, not been so very comparatively great, being no more, since the beginning of the year, than three out of nearly forty cases—I repeat, having, as I thought, reason to be dissatisfied for losing even these three cases, considering that they came under my care at the earliest period of indisposition, I determined, in any similar cases that might occur, to have recourse to that medicine which, in all membranous inflammations in particular, is the physician's sheet-anchor, and which I had exhibited, and still continue to do, myself, in other disorders, though I had never given it a fair trial in epidemics having that tendency which I have described the present one uniformly to have indicated, viz., the destruction of life by an inflammation attacking membranous parts, of a nature over which, being forbidden to bleed, we appeared to possess little or no power. Could we have drawn blood from the sides or breast by cupping or by leeches, in any tolerable quantity, we might have had some controul over the internal disease; but, barred from this, and without any remedy

save a counter-irritant which we could not make act, or an internal medicine whose action became extremely dubious, if not positively hurtful, what was to be done? I repeat, I made up my mind to experiment on the surgeon's remedy in the same disease, viz., mercury*, and that I have had some reason to feel gratified at the result, will, I think, appear from the following cases:—

Case I.—On the 8th April last, a colt, rising five years old, was taken unwell at 7 o'clock, P.M., manifesting the usual (epidemic) symptoms of dulness, sore throat, cough, feverishness, quickened pulse, mouth hot and moist, membranes of the nose and eyes injected, extremities warm, appetite defective, respiration unaffected. Being in good (fat) condition and in hard meat, he was moderately bled; then had an aperient administered, and his throat rubbed with the liniment. ammoniæ et terebinthinæ, and put into a box, warmly clothed and bandaged.

April 9th.—Still dull, but has eaten his mashes, not being allowed hay. Lies down much. His dung is in hard balls—give him a simple enema. This brought away some quantity of fæces, and seemed to render him livelier.

10*th.*—Very gloomy, and his pulse has risen to 100, and yet its beat is such as evidently will not bear the abstraction of more blood. The respiration, however, is quiet. His mouth is intensely hot, and his throat apparently very sore. Coughs faintly. Insert a rowel in the breast, and rub both breast and sides with the liniment. Dangerously ill, however, as he is, something more must be done. Try mercury. Give this ball twice a-day: ℞ Hydrarg. chlorid. ʒj, farin. avenæ ℥ss, terebinth. vulg. q. s., fiat bol., and let him be removed into a box with a southern aspect. In walking thither—a distance of not thirty yards—he quite staggered in his gait, evidently labouring under much prostration of strength.

11*th.*—Gloomy and desponding—pulse 84—mouth not so hot, and nose saponaceous—fever somewhat abated—has dunged in balls—lies down occasionally. Rowell swelling, with some appearance of discharge. Let him take his ball *thrice* a-day, and repeat the liniment to the breast and sides. Let his water be chilled, and offer him a handful of hay.

12*th.*—About the same as yesterday, only that a discharge appears at the off-nostril, of a dirty yellow-looking (sero-albuminous) matter, and increasing when he coughs. Eats a little hay

* I hesitated whether I ought to combine the calomel with opium. Surgeons always find it necessary to do so, in order to guard the bowels. I have tried it, first, without.

and drinks his chilled water. His breast is swollen a little, and a thin white-looking matter runs from the rowel while it is dressed.

13*th.*—Symptoms little varied. Pulse 84 still. The mucous membranes have exchanged their red aspect for that of a dingy yellow; and the gums since yesterday have acquired a pinkiness around the borders of the teeth, indicating that the mercury has got into the system, though as yet the breath is perfectly sweet and there is no soreness of the mouth. The only other visible effect of the mercury is a diuretic action. Give the ball but *twice* a-day.

14*th.*—Diarrhœa. Pulse 78. In other respects unaltered. Omit the balls, and give immediately, pulv. cretæ C. cum opio ℥j, in a pint of warm gruel, and repeat the drink in the evening if required.

7 *o'clock* P.M.—Still purges, therefore give another drink.

15*th.*—Decidedly better—pulse 66—is livelier and has more appetite—and drinks gruel, being allowed no water. His dung has become of the consistence of cow-dung; and, therefore, there is no occasion to repeat the drink.

16*th.*—Found him eating some coarse (clover sort of) hay. His legs are swollen, and feel quite hot underneath the bandages. Let him leave off the bandages. The skin is peeling off his throat and breast, from the effect of the liniment. The rowel discharges healthy pus. Dung *en masse;* gums not so pinky; appears now quite out of danger, and to require nothing but care and watching.

18*th.*—This morning the wind is blowing keenly from the N.E., and its coldness has affected this patient, as well as all the others. He is lying down, and appears indisposed to rise. Do nothing but nurse him.

20*th.*—Visible improvement.

22*d.*—Pulse 48. Mending fast.

26*th.*—Returned to his stable "convalescent."

Case II is a very similar one to Case I, and occurred at the same date.

This four-year-old colt was taken ill on the evening of the 7th April.

His symptoms were of a milder character, at first, than those of Case I, and did not, up to the 11th April, call for any unusual interference.

This morning (the 11th) he has grown more dejected—his pulse has risen to 72—his mouth, not so hot as it was yesterday, has become saponaceous—his appetite is not so good as it has

been—his rowel is quite dry, with hardly any swelling about it. Try what effect mercury will have on him. Let him take, thrice a-day, the following:—

Hydrarg. chlorid.....3j
Farinæ avenæ.....ʒss
Terebinth. vulg.....q. s. fiat bol.

and rub his breast, sides, and throat, with the liniment ammoniæ cum terebinth.

Give gruel to drink and hay to eat, in order to disincline the bowels to diarrhœa.

12*th*.—Symptoms the same—pulse 72. Appetite fastidious, refusing hay, but nibbling mash; will not drink the gruel, and therefore is allowed chilled water. A discharge from the rowel of a brownish-looking sero-purulent matter. Dung in soft balls. The mucous membranes of the mouth, eyes, and nose, have a yellowish-brown cast. Continue medicine twice-a day, and repeat the liniment to the breast and sides, and dress the rowel.

13*th*.—Appears livelier—has eaten mashes with some appetite, though in other respects unaltered. Pulse 72, small, and compressible. Evidently (from the state of the litter) stales a good deal—dung softer. Gums around the borders of the teeth highly pink-coloured—my assistant observed them growing so yesterday afternoon: the breath untainted. The rowel does not act as it should, though the breast is swollen. Continue the ball morning and evening, repeat the liniment, and dress the rowel again.

14*th*.—Purges. Pulse reduced to 66: in other respects the same as yesterday. Let him take immediately, in a pint of warm gruel, pulv. cretæ comp. cum. opio ʒj, and repeat the liniment and dressing to the rowel.

Seven o'clock, P.M.—Continues to purge, but not to excess. Give another astringent drink.

15*th*.—Purges still—and yet appears better. Pulse but 60. Appetite small—drinks shyly of gruel. Gums pinky, and rather tender, which may account for his dislike, or rather refusal, of hay. Give another drink, and dress the rowel; but discontinue the liniment, for the skin is peeling off the breast.

16*th*.—Evident amendment. Pulse 60. Dung semi-solid. Feeding better—gums still pinky and tender. All four legs swollen. Take off the bandages from the legs.

One o'clock, P.M.—Has this minute had another liquid motion. Repeat the drink.

17*th*.—More animated, and has improved in his appetite: has dunged but once during the night, and that *en masse;* turns away in disgust from his gruel; and therefore let him have chilled water again, and continue to feed him with hay.

18*th.*—Dung in a solid form.
21*st.*—Pulse 42. Daily mending.
26*th.*—Convalescent. Walks out.

Case III.—This three-year-old mare was attacked on the 11th April, at eight o'clock, P.M. Her symptoms were dejection, impaired appetite, feverishness, sore throat and cough, reddened mucous membranes, &c., as in the other cases. Give her an aperient immediately, and at one o'clock a hot bran mash, and hang up in her box a pailful of chilled water.

12*th.*—More fever. V.S. ad lb. viij, liniment. ammon. cum terebinth. to her throat.

13*th.*—Some dulness on percussion of her chest, and indistinctness of the respiratory murmur. Rub her sides with the liniment, and put a rowel in her breast.

14*th.*—Quite cast down in spirits; pulse 72; standing with her head towards the window; rowel not rising. Commence the mercurial treatment. Sumat calomel ʒj cum opii gr. v, ter die.

15*th.*—No worse; seems, if any thing, a little livelier. Continue the ball morning and evening only; and dress her rowel.

16*th.*—Has become again extremely dejected and gloomy, and eats little or nothing; coughs occasionally; rowel inactive; dung in light-coloured balls. Continue the medicine morning and evening, rub her breast and sides and throat with the liniment, and dress her rowel.

18*th.*—Better again, though still dull. The easterly wind, which this morning blows very cold, seems to have affected her, in common with others. The opium has rather confined her bowels, therefore give her an enema; and, as she seems doing well, omit the medicine altogether. The enema brought away a great deal of excrement.

20*th.*—No effect has been produced by the mercury, either on the mouth or breath. The discharge of urine has, however, been augmented, and to-day she passed dung in a mass.

22*d.*—Pulse 48. Proceeding favourably.

26*th.*—All the early part of yesterday she appeared costive in her body: last night a diarrhœa came on. It is not of a character this morning to require medicine. Let her have nothing but gruel for drink, and only hay to eat.

27*th.*—Her diarrhœa ceased yesterday, and has not returned.

30*th.*—Convalescent; walks out daily.

Lest it should be said, after the perusal of these three cases, that they do not appear to have been of a dangerous character, or to have required any thing out of the ordinary line of treatment, I beg to

observe, that at the periods at which I submitted them to the action of mercury, they so much resembled three others that had preceded them and the disease had proved fatal, that, under a continuance of treatment of any ordinary kind, I certainly should have entertained fears for their safety.

It must be remembered that they were cases in which bloodletting, except at the commencement, was altogether forbidden; and that, at the critical period when mercury was introduced, they had taken an unfavourable turn, and that nothing in the shape of remedy appeared available, save internal medicine and counter-irritation, and that the latter had not and did not shew results betokening the welfare of the patients. Under these circumstances the mercury was exhibited. That it entered the system, and must have had more or less influence on the disease, appears evident from its effect on the gums. That it proved the means of cure, I cannot, from so few cases, take upon myself to assert; but I would recommend it in similar cases to the notice of practitioners. As a remedy for inflammation—in particular for membranous inflammation—at a period when we dare no more bleed, and when the life of our patient appears sinking under its destructive effects, I would advise my professional brethren to make trial of mercury—calomel with opium—reminding them that it must be thrown into the system with a rapidity proportioned to the existing danger. In the course of four-and-twenty hours I believe it possible to produce an effect by mercury on the constitution which may effect a change on the course of inflamtory disease. In forty-eight hours I have seen the mouth affected by it. There, however, exists in the horse, the same as in man, most remarkable differences in regard to the action or effect of mercury. I have known ten grains of calomel, given twice a day, make a horse's mouth so sore on the fifth day that he cudded his hay; opposed to which, I have seen a horse take a drachm of calomel twice a day, for upwards of a week, without any visible effect. There is a peculiarity and danger too in exhibiting mercury that should be kept in mind: however, this is not to deter us from its use. It is of incalculable importance to possess a remedy for inflammation in an organ essential to life, and running on, in spite of all that can be or has been done with the lancet. This mercury in the human being is asserted to be—and should it prove so in the horse, there will be no great reason for surprise, however much there may be for rejoicing.

*** Mr. Youatt saw two of the cases above alluded to, and felt satisfied about the action of the mercury on the mouth.

ON EPIZOOTIC DISEASES.

By Mr. Youatt.

[Continued from p. 251.]

Cattle.

A few pages from the elaborate "Dictionnaire" of Hurtrel D'Arboval will complete our review of the knowledge and treatment of the epizootic diseases to which cattle are subject on the other side of the Channel.

By the term epizootic diseases, are meant those, to a greater or less degree of a fatal character, that develop themselves indistinctly and suddenly over a great number of animals of the same or of different species, in a greater or less extent of country, and during a longer or shorter period of time. They are supposed to be attributable to one common cause—more or less generally prevalent—sometimes quite unknown, or, at least, imperceptible to our vision, or appreciable only by its results, and spreading with fearful rapidity from one individual to another. They generally present themselves under the same aspect—they follow an analogous course—they occasionally offer similar anomalies, which are not appreciated as they deserve, or which are uselessly and erroneously divided into particular species. Their termination is too often fatal, especially when they are badly treated, and which is always a far worse circumstance than not treating them at all.

In despite of the researches and the labours of many well-informed men, the epizootics have, in most of their works, been badly observed, badly known, and badly described. We need not to be surprised at this; for veterinary medicine, although it has made some progress, is yet much in the rear. It languishes ignobly in its course—it is the victim of prejudice, empiricism, ridiculous routine, and shameful abuse. The maladies are not well classed, and the nomenclature is vicious and barbarous. The doctrine of epizootics, although some general conception may be formed of it, wants much to place it on a solid basis; and the collection of numerous cases is desirable, illustrating the character of the disease, and the appearances presented after death.

Epizootic diseases, the ravages of which it is so difficult to control, generally owe their origin to some prevailing cause or causes, which it is the paramount duty of the veterinary surgeon to discover and duly appreciate. These are, atmospheric influ-

ence, generally speaking — temperature — certain localities — the bad construction and contaminated air of the buildings—the nature and quality of the food—travelling by sea and land—and accidents of every kind. When these are the causes that, under certain circumstances, prevent the improvement and destroy the lives of our cattle, we say that the diseases are epizootic. Among these causes, one is of so frequent occurrence that it may be said to be constant,—humidity. It acts on the vegetable world, and on the animals which it supports. It deprives the vegetables of a portion of their nutritive principles, and often gives them a deleterious quality. The grass and the grain undergo a species of germination which interferes with their wholesomeness, and gives to the general produce a disposition to fermentation.

This humidity of the air and of the food exercises a peculiarly fatal influence on animals whose temperament is weak and lymphatic, as in the ruminants it generally is. Sheep are too often disposed to imbibe this fatal influence. If the summer is characterised by almost undeviating moisture, the cattle, and more especially the sheep, become the victims of dropsy. Resulting from this influence of external agency is another, the ravages of which are truly dreadful. The cattle cannot be long exposed to this deleterious influence without the principle of contagion being fearfully developed. It is connected with the typhus of cattle and the more acute diseases of other animals; and, from this cause, many contagious typhous diseases have been known to pervade the whole of Europe.

Under these circumstances, medicine too often renders feeble assistance. The unknown nature of the disease surrounds the practitioner with a degree of obscurity, which the torch of experience alone can dissipate, and of which he cannot avail himself when he is first called to attend on his patients. His early essays can scarcely be said to be guided by any scientific principle, and he must have time to observe and to reflect before he can decidedly act. The contagion is assuming daily a more decisive character—it is approaching nearer and nearer—the infected surface is enlarging — the propriety of one or another treatment cannot at first be satisfactorily determined, and, too often, the real nature of the disease cannot be ascertained until after the loss of many a patient.

Some epizootics commence their ravages in a great number of places at the same time; others are at first observed in one locality alone, but they rapidly spread on every side until they cover an immense extent of country. Some pursue a regular march from one district to another; others, suddenly disappear in one region, to devastate a distant one; and, in too many cases the malady

vanishes for awhile from a certain district, suddenly to return and assume a still more destructive character. This indicates the necessity of our persevering in the employment of preservative means for a considerable time after the storm has apparently blown over.

Considered with respect to their duration, these epizootics differ very materially. Some entirely disappear in the course of a few months; others remain during several years, extending their ravages first to one district, and then to another, close at hand or remote. Their course is often divided into different epochs, each one distinguished by some peculiarity with reference to its symptoms, complications, accidental circumstances, mode of treatment and of termination. There is some period in each epizootic when the destruction is fearful; at other times, the malady assumes a gentle character through the whole of its continuance. The treatment will necessarily vary with the different epochs of the disease and the various symptoms that appear.

Should the sale and consumption of the flesh and the milk of animals affected by this disease be permitted? This is a question essentially connected with health and with life, and should be most seriously considered. The general opinion which is entertained, and established on undoubted facts, that the flesh of these animals cannot be always eaten with impunity, deserves the most serious consideration. It is the wisest part to refrain from the use of this food, although it may be attended with some inconvenience and pecuniary loss. In some cases it has appeared that the flesh of animals affected by the epizootic has been eaten without any bad consequence ensuing, but in other instances the result has been of the most serious nature. Common sense and a regard to safety would indicate the propriety of refraining from this food, especially if any malignant pustules or gangrenous inflammation appeared on the animal.

The typhus of horned cattle, is it not an inflammation which may and does readily pass into a state of gangrene? Can we recognise the cases in which it may or will terminate without gangrene? Do we understand the nature or the cause, or the indications of the course which it will pursue? The different circumstances in which these animals may be placed—the constitutional tendency to various forms of disease—the idiosyncrasies—the localities—the influence of the seasons—the nature of the country—many special circumstances—will not the united power of these cause a strange variation in the mild or destructive character, not sufficiently appreciated by the most careful observer, and teaching us a lesson of caution by which we should profit? The smell and the taste of the flesh of all these animals often to

a greater or less degree change—the *bouillon* is neither so well tasted or nourishing—the colour of the cellular tissue and of the muscles is of a darker or putrid hue. These circumstances are surely sufficient to prevent the use of these animals as an article of food.

With regard to the skins of infected animals, should they be buried with the carcasses of those that have perished? This would certainly prevent the propagation of the disease; but is it absolutely necessary? May not the skins as soon as they are detached from the animal, be sent to the tan-yard? The tanner, in his preparation of thick skins, is compelled to have recourse to the commencement of the putrefactive process, and he fears no fatal result from it. In the preparation of white skins he has recourse to the chloride of lime and of sodium, the sulphate of alumen and of potash, and the vegetable and woody matters which are used in tanning the skin. All these different proceedings, and particularly the last, are well calculated to neutralize almost any degree of contagion which might otherwise result. The action of chlorine and of the tanning process would be sufficient to destroy all infection. It would, however, be a proper precaution to pour away the water in which the skins have been macerated, and to scatter a quantity of lime over the place in which the tanning process has been carried on.

The epidemic having established itself in a certain district, are there any preservative measures—any means by which it can be confined to the district in which it had its birth, and its ravages limited even there? This desirable object might, perhaps, be accomplished if there was a community of feeling between the proprietors of the cattle, the administrative authorities, and the veterinary surgeon; and without this community of feeling the best conceived measures may not only be useless, but in the highest degree destructive.

Two measures have occasionally been adopted in order to arrest the destructive progress of an epidemic. The first of these is to destroy the cattle that inhabit a supposed infected district—not only those that appear to be actually diseased, but that have been exposed to infection. This has occasionally been tried in most of the countries of Europe: but can such a course be defended? If we thus ruin the proprietors, are we not adding to the evil? Can we be assured that we have perfectly succeeded in accomplishing our object? May not the disease continue to be propagated by a thousand empoisoned germs, diffused in the atmosphere for an indefinite period, and only awaiting the fitting time again to devastate and destroy? We may be enabled to a certain extent to cut off the communication between the sick and

the sound, although we shall often be disappointed, and, despite of all our care, the malady will continue to spread; but this wholesale butchery, while it devastates the country, may totally fail in permanently eradicating the disease.

Inoculation has been recommended, and practised to a considerable extent. It was founded on the supposed fact that animals that had once contracted the disease were safe from future infection. A beast was therefore selected in whom the malady had appeared in its mildest form. Matter was taken from some of the pustules, and the neighbouring cattle were inoculated by it. The consequence was, that in many cases the virus produced no effect; in some, an eruptive disease of a mild character appeared; in others, the appearance of the eruption seemed not to afford the slightest preventive influence—and in too many cases it pursued its fatal course to the destruction of the patient.

Our author now enters into a long but interesting detail of the preventive measures which were adopted by the French government in order to control the ravages of the disease; but, as many of them would scarcely be tolerated in our country, we pass them over. In another number we shall commence the history of these epidemics in the British Isles, and most thankful shall we be to those of our friends who will give us a sketch of these diseases as they appeared in different localities.

THE VETERINARIAN, JUNE 1, 1842.

Ne quid falsi dicere audeat, ne quid veri non audeat.—Cicero.

REPORT OF THE PROCEEDINGS OF THE COMMITTEE OF VETERINARY SURGEONS.

The Committee of Veterinary Surgeons feel it their duty, after somewhat more than twelve months' active exertion for the accomplishment of the objects for which they were appointed, to lay before the members of the profession a Report of their proceedings.

It will be fresh in the recollection of those whom the Committee now address, that they commenced their undertaking with three especial objects in view:—

First,—The success of the propositions contained in the memorial presented to the Governors of the Royal Veterinary College.

Secondly,—The addition of a limited number of veterinary surgeons to the present Examining Committee.

Thirdly,—The obtainment of a Royal Charter of Incorporation, "upon some such plan and constitution as the present Royal College of Surgeons;" and, in addition, an act of parliament, granting unto the members of the College of Veterinary Surgeons the same exemptions and privileges as the members of the medical profession at present enjoy.

With regard to the first of these objects, your Committee have nothing satisfactory to communicate. Notwithstanding the assurance given to their Secretary by Mr. France, the official organ of the Veterinary College, in a note, dated the 16th of July, 1840, which was to the effect that "there would be a meeting of the medical honorary members of the College on the following Wednesday, when the subjects of the memorial would be laid before them for their consideration; and that, when this was received, a committee of the governors would be convened to determine thereon, and the result would be communicated to the Committee," *no official information has been received.* And, in all probability, the subject is considered of such *trivial importance,* that no farther notice will be taken by that body of the sentiments and feelings of nearly four hundred members of the profession.

With regard to the second object, the Chairman of your Committee took an early opportunity of conveying the resolution agreed to at the general meeting held on the 3d of Nov. 1840 to the Chairmen of the Governors' and the Examining Committee. *From the former, no communication has been received*; from the latter, the late lamented Sir Astley Cooper forwarded an acknowledgment of the receipt of the application, and a promise that the same should receive the consideration of the committee. Whether, however, this has been done, your Committee are unable to state.

On the 4th of Feb. 1841, your Committee commenced what, in their opinion, forms the most important step ever yet taken by the veterinary profession; one, not only absolutely necessary for

our well-being and existence, but one which the resolution* of the governors, of the 3d of July, 1840, compelled the profession to take. At the meeting beforementioned, a petition to Her Most Gracious Majesty the Queen, and an address to the Marquis of Normanby, were prepared, copies of which have been transmitted to you.

In carrying on so noble an undertaking, your Committee felt it incumbent upon them to obtain to the petition the signatures of those who were connected with the veterinary schools of London and Edinburgh. A deputation, consisting of the Chairman, Mr. Baker of Reigate, and Mr. King, jun. of Stanmore, accordingly waited, by appointment, on Professor Sewell and Assistant-Professor Spooner—the solicitor to the College being also present —by whom they were courteously received. After hearing the intentions of the petitioners, Mr. Sewell declined having any thing to do with the petition until he had ascertained the wishes of the governors: but Mr. Spooner most favourably entertained the subject; and the Committee feel it nothing but right to state, that from that individual, and from Mr. Morton, Professor of Materia Medica and Pharmacy, they have received every encouragement.

The solicitor also gave it as his opinion that we ought to have a Charter, and, if certain alterations were made in the petition, he had no doubt of its success. These alterations he subsequently handed to the Chairman, who laid it before the Committee on the 4th of March, which document, after some observations which it is unnecessary here to mention, concluded by praying "that the subscribers and graduates of the present Veterinary College should be incorporated under the name of the President, Vice-President, Directors, and Governors of the Royal Veterinary College of London." After fully discussing this suggestion of

* "It was resolved that this Committee do not see the immediate necessity for applying to the Crown for a Royal Charter to be granted to this institution; but, that every facility would be given to the veterinary surgeons for procuring an act of parliament, to prevent certain grievances complained of by the memorial, which could not be relieved by a Charter."

Mr. France's, the Committee unanimously resolved that it could not be adopted.

From Professor Dick, of Edinburgh, your Committee received the most friendly and cheering communications; and he attached his signature to the petition, which, having been most numerously and respectably signed, was placed, at the latter end of March 1841, in the hands of the Marquis of Normanby.

On the 15th of April, the Chairman laid before the Committee a communication which he received from Mr. Plaskit, chief clerk at the Home Office, which was to this effect,—"that the Marquis of Normanby had referred the petition of the veterinary surgeons to the consideration of the Attorney and Solicitor General. That a draft of the proposed charter should be appended to the petition; and requesting that some individual, on behalf of the Committee, should wait upon him, for the purpose of receiving the necessary instructions." In compliance with this request, the Chairman, accompanied by Mr. Waller, the appointed solicitor to your Committee, waited upon Mr. Plaskit, who, in addition to other information, lent several charters for the assistance of the solicitor. A draft charter was accordingly prepared under the superintendance of the Committee, who unanimously resolved that no clause or clauses should be inserted which would interfere with the private arrangements of the governors of the Royal Veterinary College, or the College of Edinburgh.

The essential points contained in the draft Charter are these;—the whole of the present individuals who have obtained their diplomas from the College in London or Edinburgh, united into one body corporate, with power to sue and be sued, under the title of the President, Vice-President, Council, and Members of the Royal College of Veterinary Surgeons. The first president appointed by the crown, who retains office until the meeting of the members, when a fresh election is to take place. The members to hold an annual meeting, to elect council, which is to consist of twenty-four members, six of whom are to go out annually, but eligible for re-election. Council to appoint vice-presidents, to control and manage the affairs of the College generally; to make by-laws and regulations, and appoint fit and

proper persons to examine those who wish to become future members of the body. Candidates for examination to have been educated at the Veterinary schools of London or Edinburgh*.

The exemptions and privileges to be secured by act of parliament, a Charter being the first step towards the attainment of that object.

The clause relating to a grant of ground not exceeding in value £3000, usually inserted in all charters, was unanimously struck out by your Committee, in order that it should not be said that we sought to create a rival establishment.

On presenting the draft of this Charter at the Home Office, the solicitor was informed that the business had been suspended; in which state it remained until the accession of the present government, when the whole of the documents relating thereto were placed before them.

After the lapse of some months we received a communication from Mr. Plaskit, stating "that Sir James Graham was not at present disposed to grant the application for a Charter for the Veterinary College." Upon the receipt of this, your Committee determined to wait by deputation on Sir James Graham, and endeavour to bring the subject to a more satisfactory conclusion. The Chairman placed himself in communication with Mr. Kemble, M.P., to whom, and to Mr. Antrobus, M.P., not only are the thanks of the Committee but also of the Profession due, for the kindness and readiness with which they acceded to their wishes, and for their able assistance in the business. Through Mr. Kemble's exertions Sir James Graham acceded to receiving a deputation from the Committee, who accordingly waited upon him by appointment on Friday the 22d of April, and were most courteously received. The deputation consisted of Mr. Kemble, M.P.; Mr. Antrobus, M.P.; Mr. Thomas Turner, Chairman; Mr. Percivall, 1st Life Guards; Mr. Goodwin, V.S. to the Queen; Mr. Field; Mr. Gabriel; and Mr. T. W. Mayer, Secretary.

The result of that interview it is the duty of the Committee to communicate.

* It is intended that the pupils of the Edinburgh Veterinary College shall be examined by a distinct board holding their meetings at Edinburgh.

The Chairman ably and fully stated to Sir James Graham the wishes and wants of the petitioners, and, his representations having been supported by the deputation generally,

Sir James Graham remarked, first, that we were now applying for the very thing which, as far as the medical profession were concerned, a large number were desirous of getting rid of, or, in other words, desirous to alter and amend.

Secondly,—That Sir James *never would give his sanction* to the imposition of any fine upon an unqualified person or empiric practising his calling; stating it as a reason, that the public were the best judges of the person they choose to employ, and, whether judiciously or not, the public took the responsibility.

Thirdly,—Sir James said, he thought we underrated our standing and respectability, as we were at present constituted, as well as the degree of estimation which the public entertained of us as a body: he further remarked, that our parent institution, the Veterinary College, possessed no Charter or greater privileges than we enjoyed.

Sir James also volunteered some hint as to the move of the veterinary body being cordially met in Scotland, which gave rise to a portion of a letter being read by the Secretary which he had received from Professor Dick, of Edinburgh; after which, Sir James said that he thought his Grace the Duke of Richmond took rather an interest in this business, but precisely in what way he was not then prepared to explain, but shortly expected to see the Duke on the subject.

Sir James finally gave the deputation to understand that some material alteration was likely to appear in the forthcoming bill for the medical profession, when he would take into consideration the suggestions and application of the veterinary body, without making any decided promise as to what might emanate from him or the government. In answer to a question from one of the members of the deputation, as to whether the veterinary profession would be included in the medical bill, Sir James stated that that which was done for the veterinary profession had better form a distinct measure.

It now only remains for your Committee, in conclusion, to return their sincere thanks to the veterinary surgeons of the

United Kingdom (and especially to those who in their different localities have assembled and united their exertions for the accomplishment of the objects in view) for the patience, discretion, and unbounded confidence they have manifested. And to state that it has been their unceasing endeavour to carry out the objects for which they were elected in a spirit of good feeling and good temper—honestly, and with a spirit of cordiality towards the existing institutions.

They would farther assure the members of the profession, that it is their intention to still carry forward their labours in the same spirit; and supported, as they trust they will continue to be, by the individual exertions of every member of the body, *to never cease from their exertions until they obtain for the veterinary surgeon that rank, station, and professional education, which is justly his claim and his right to expect.*

Signed, on behalf of the Committee,

THOMAS TURNER, *Chairman.*
THOMAS WALTON MAYER, *Secretary.*
FRANCIS KING, Jun., *Treasurer.*

May, 1842.

[We make no comment on this Report—we leave that to our readers. The Profession will repose implicit confidence on their Committee, and that confidence will not be betrayed. Still we should like some expression of the wishes and hopes and fears of the Profession.]

WE have lately received from Messrs. Hall and Chatterley, of Havering Atte Bower, near Romford, a very interesting prospectus of a course of scientific instruction of young men in the principles and practice of agriculture. The large and increasing number of agricultural societies and publications, and in which the practical application of science to agriculture forms one of the chief subjects of discussion, is a fact honourable and useful to the farming interest. It is a pledge of increasing improvement and prosperity, notwithstanding some of the evils which seem at present to threaten the condition of the farmer.

Lectures on some of the leading divisions of agriculture are now delivered at the Universities of England, Scotland, and Ireland, and schools are establishing in various parts of the country for the instruction of young men in the various branches of agricultural education. The institution near Romford is one of the earliest of these, and we heartily wish it success.

The instruction of the young farmer commences with Botany—the structure and uses of plants, especially of those which are most connected with the interests of the farmer—the nature and causes of the diseases of vegetables—the means of prevention, and the ease or difficulty of the assimilation of the food of plants.

Chemistry follows next; and its connexion with agriculture is of deep importance, whether we regard the composition and nature of soils, the value of different manures, and their adaptation to different purposes.

Mechanics will pleasingly unfold the principles on which machines are constructed—their comparative value for different purposes, and embracing all the difficulties and all the improvements of horse and manual labour.

Hydrostatics and Hydraulics will bring home to him the composition and uses of water, and the principles of drainage and irrigation—and connected with these will be the nature and agency of light and heat, and meteorology—the theories of winds, and clouds, and rain.

The Veterinary Art will not be neglected, but means will be taken to obtain from some competent person, and to a certain extent, instruction respecting the various animals that will hereafter constitute one of the most interesting divisions of the property of the farmer—their usual and most profitable nutriment—the indications of health and of disease, and the means of meeting ordinary cases when the veterinary practitioner may not be at hand.

Whether we regard the young farmer or the veterinary practitioner, there is no way in which a year or two could be more pleasantly or profitably employed, and we trust that the time is not far distant when this course of early and useful study will be generally adopted.

VETERINARY JURISPRUDENCE.

THE DIFFERENCE BETWEEN A WARRANTY EXPRESS AND IMPLIED.

By Mr. John McLean, *V.S., Jedburgh.*

I send a short narrative of a case. Should it prove acceptable, I may, perhaps, be able to follow it up with some more on the same mysterious subject—veterinary jurisprudence.

On the 3d November, 1841, I was called on to make a post-mortem examination of a well-bred short-horned quey that had been dead thirty-six hours.

I first opened the cavity of the abdomen. The bowels were healthy, and contained very little ingesta. On dividing the cartilages that connect the ribs with the sternum on both sides, and raising it up, there was an old standing adhesion between the pleura costalis and pulmonalis on the left side, and there seemed to be more development than was usual in the region of the heart. There was no effusion into the chest, and the substance of the lungs was healthy.

On extracting the heart and lungs, and cutting into the pericardium, a quantity of yellow serosity escaped. The heart was very much enlarged, and fully twice its ordinary size. On opening its cavities, a large tumour was seen floating loosely in the left ventricle—being attached to and principally entering into the substance of the mitral-valve. This was all that prevented the regurgitation of the blood from the left ventricle to the auricle, and which must have taken place to a great extent. In short, here lay the disease which gave rise to the anomalous symptoms the animal was said to have exhibited before death, and here was the very *causa mortis*.

On inquiry into the history of the case, I learned that the quey had been bought by Mr. Cunningham from a farmer in Northumberland, to go to the Highlands as a breeder, and, on being examined previous to her departure for her destination, she was found by a veterinary surgeon to be labouring under chronic disease.

Mr. Cunningham had to take her back, and wished the first seller to do the same, but he objected, and, as no warranty of soundness had been given, he could not be compelled.

Now, what I would beg to call the attention of the reader to is, that, had the first sale taken place in Scotland, a warranty

would have been implied from the price, if it was considered as a fair value for the animal, and the first seller would have been liable to take back the animal, as I have numerous cases to prove; but the sale took place in England, where the warranty must be *express*, and not implied. However, the gentleman, much to his credit, paid back part of the price to Mr. Cunningham on learning the true nature of the disease, and that there was no doubt of its existing at the time of sale.

Challand *v.* Braye.

[The singular character of this case will give it some little interest, although, perhaps, not strictly connected with the general character of our periodical.]

The plaintiff in this case had made a match with a third party to trot two horses, for £25 a side, upon a part of the turnpike-road between Huddersfield and Woodhead. Each party deposited £15 with the defendant as a stakeholder; but the plaintiff refused to run his horse, and brought this action to recover back his deposit. The case having come on for trial before the Under-Sheriff for Yorkshire, a verdict was returned for the plaintiff—damages, £15. Leave was, however, given to the defendant's counsel to move this Court for liberty to enter a nonsuit, upon the ground that, as the wager was a legal one, the deposit had in the circumstances been forfeited, and that the plaintiff was, therefore, not entitled to recover.

Upon a former occasion the rule had been obtained, and cause was subsequently shewn against it upon the ground, first, that the race being only for £25, was for a lesser sum than was allowed by the law, which rendered illegal all races for sums less than £50. It was also contended in the same place, that a race upon a common turnpike-road was illegal even at the common law, in consequence of the danger which might result to the public in passing along that way in the exercise of their lawful avocations. With regard to the first point, his Lordship referred to a case which had occurred in the Court of Common Pleas, in which it had been decided that a race for £25 a side was to be considered as a race for £50. Upon the second point Mr. Justice Coleridge admitted that, in all cases, a race upon a turnpike-road would be highly inconvenient, and, in the majority of instances, be actually illegal. He could not, however, assume that it was impossible to select such a time, and take such precautions, and make such arrangements upon the subject as to make such a race perfectly

safe and legal. As the race in the present case was not actually run, the Court could not presume that if it had taken place it would have been attended with such a want of precaution as to lead to any injury or inconvenience to the public, and especially as the match was not a galloping but a trotting match, in which the speed of the animals engaged would, of course, be much less than in the former case. The question, therefore, must finally be decided upon the consideration of the 18th George II, chap. 34, sec. 11, which allows, with certain limitations, races of every kind to be run in any place whatever throughout England. In construing these latter expressions Lord Eldon had been of opinion that they were not to be limited to those places where it had been usual to run races before, but that it extended to all places over England where the running of a race would not be otherwise illegal or exceptionable. He (Mr. Justice Coleridge) adopted this construction, and was therefore of opinion that the wager was not illegal, that the deposit was forfeited, that the plaintiff was not entitled to recover, and that the rule must be therefore absolute.

THE TREATMENT OF CYSTITIS IN SHEEP.

By Mr. C. Dickens, *Kimbolton.*

The case of rupture of the bladder in two tups, as reported by Mr. Tindal in your April number, page 150, calls to my mind a case or two not very dissimilar that came under my notice in June last: should you deem them of sufficient interest to claim a page in your Journal, they are at your service.

June 18th.—I was requested to look at a remarkably fine sheep of the Southdown breed, the property of the Duke of Manchester, and cannot describe his first appearance better than by using the language of Mr. T——, and say, that I found the beautiful animal very uneasy, constantly shifting his hind legs, and frequently straining as if to void his urine. He was stiff and unwilling to move. His bowels were constipated, and evinced considerable tenderness if pressure was made on the abdomen. The shepherd had bled him—he was ordered a cathartic draught accompanied by an opiate; but no amendment taking place he was slaughtered, and I had an opportunity of seeing the progress of the disease. The intestines were inflamed slightly—the kidneys more so; but the greater degree of mischief presented itself in the bladder, which was quite full, and very highly in-

flamed ; indeed, quite of a crimson hue. These appearances suggested that nothing but energetic antiphlogistic treatment would avail should other cases present themselves ; and an opportunity soon presented itself of carrying our practice out.

On the 20th, another of these fine animals exhibited the same symptoms as the former one, and I was told by the shepherd he had bled him well. Not, however, being satisfied, I was determined to open the jugular vein, and, not having a small lancet in my case, I had recourse to a rather broad-shouldered one, such as I use in bleeding the horse, and quickly obtained a stream equal to the one we have from that animal, until I abstracted three pints, quickly accompanied by approaching syncope, so much so, that the shepherd exclaimed, " Dash it, he is dead, sir ;" and I must admit I was fearful that I had been more bold than discreet ; but he very soon rallied, and an oleaginous draught accompanied by an opiate was given twice during the day. Towards night he appeared much better, ate a little, and was seen to void some very high-coloured urine. His medicine acted well during the night, but on the next day his straining came on at times. I again bled him from the other side of his neck to the amount of two pints. From this time he continued mending, and I had the pleasure of seeing my patient obtain a prize as extra stock from the Huntingdonshire Agricultural Society in October.

Remarks.—Do not my cases bear strict analogy to those of Mr. Tindal? There was no rupture in mine, because the first was timely slaughtered, and the second successfully treated : but it is more than likely that, if they had been left to run their course, such would have been the case, and I verily believe often is, in those cases we hear of when they drop with water : in fact, in this part of the country, I have often been surprised at the quiet manner in which the farmers take such intelligence, never once inquiring the why and the wherefore—it is sufficient that it dropped with water.

These sheep were fed, as in Mr. Tindal's cases, upon hay, peas, cabbage, and oil-cake. In speaking of oil-cake for sheep, I may be told that it will be going out of our ground—that it is more of an agricultural than veterinary question. Yet you, Mr. Editor, will maintain with me, that it is as much our duty to point out the cause of disease as to treat it ; and I cannot but believe that the farmers are much gulled as to the fattening qualities of this article—most excellent when genuine ; but I fear that, like most other manufactured articles, such is seldom the case. I am certain that I have seen some sold and used as linseed-cake, that would more appropriately be termed a mass of dross, or extraneous matter, containing grit, carlic, &c. Query, may not this

filth, acting upon the mucous membranes of these animals, already highly predisposed to inflammatory action, partly produce the disease in sheep I have described (cystitis), accompanied with enteritis at times? At all events, this deserves some attention.

Bleeding.—It is not uncommon, when the opinion of the veterinarian is sought for in any disease raging among sheep, for his assertion to be made, that they have all been bled. It is true that the attempt has been made, and succeeded in some cases; but no definite quantity has been abstracted: the usual place is the face, and sometimes a few ounces are taken—in others, not so many drops. Would it not be better, no doubt more certain, to bleed them at once from the jugular, or some leading vessel? for, in such cases as those now related, nothing short of excessive depletion will be of service: probably there is no other case on record of a sheep having lost five pints of blood in thirty hours. To that alone do I date the recovery of my patient.

OBITUARY.

An erroneous account of the death of one of our veterinary brethren having been inserted in some of the midland papers, we avail ourselves of the kindness of Mr. Wetherall to give a more correct statement of the case.

Mr. Marriott, of Spalding, was attending a young mare labouring under ophthalmia. He was making a necessary but painful application to the eye, when she reared and struck him on the temples, and caused his instantaneous death. He was a well-conducted young man, and his kindness to a widowed mother was highly creditable.

Some benevolent individuals have attempted to establish a fund for the relief of the families of our deceased brethren. It would be a noble object, and will, we trust, ere long be established to its fullest extent.

MISCELLANEA.

Fecundity in a Cow.

A cow, the property of Mr. J. Gibson, of Thorpe on the Hill, last week yeaned her twentieth calf, the mother being but twenty-one years old. She has never had twins. As a proof that nature amply provided her with the means of sustaining and raising so numerous a progeny, she was milked regularly, for ten years, two and often three times every day. Her stock have invariably

been of a superior kind; nor does old age in the dam in the least appear to militate against their thriftiness, contrary to the general opinion of breeders.—*Cambridge Chronicle.*

Feeding Poultry.

Professor Gregory, of Aberdeen, in a letter to a friend, observes, "As I suppose you keep poultry, I may tell you that it has been ascertained, that if you mix with their food a sufficient quantity of egg-shells or chalk, which they eat greedily, they will lay, *cæteris paribus*, twice or thrice as many eggs as before. A well-fed fowl is disposed to lay a vast number of eggs, but cannot do so without the materials for the shells, however nourishing in other respects her food may be; indeed, a fowl fed on food and water, free from carbonate of lime, and not finding any in the soil, or in the shape of mortar, which they often eat off the walls, would lay no eggs at all, with the best will in the world."

Vegetation protected by Snow.

It is a common opinion, and with due limitation is no doubt correct, that a covering of snow protects the earth and the vegetation upon its surface from the effects of intense frost. Not that the snow imparts warmth, but, being a bad conductor of caloric or heat, it checks the abstraction of that principle by the cold air above it. The following experiments may give some idea of it: they were made under favourable conditions, from the low temperature reached during the frost, and from the circumstance that heavy snow fell immediately after a thaw, so that the surface of the ground was then at 32 degrees.

About 11 A.M., the temperature of the air was 13 degrees (Fahrenheit); that of the surface of the snow was 12. The night had been much colder, and the surface had not then acquired, though I afterwards found that it quickly gained, the temperature of the atmosphere;—

The air then being at	13
The surface of the snow	12
At one inch in depth it was	15
At two inches	20
At three inches	24
At four and five inches	26
At six and seven inches	27
At eight inches, near the bottom . .	28

THE

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LECTURES ON HORSES.

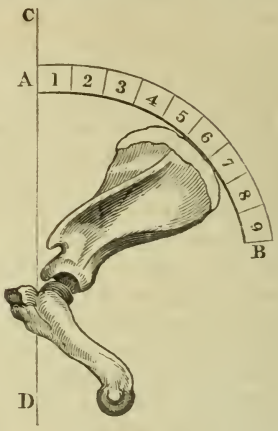
By WILLIAM PERCIVALL, *M.R.C.S., Veterinary Surgeon First Life Guards.*

LECTURE IV *(continued).*

THE SHOULDER (*continued*).

THE muscles attaching the scapulæ to the sides of the chest impart to the shoulders that strength which enables them to support the fore parts of the animal machine, and move under their burthen with a facility that no joint or other contrivance could have afforded them. The scapula or blade-bone, in the position we behold it while the horse is standing, possesses—in relation to an imaginary line let fall perpendicularly from the withers (see the *fig.* dotted line C D)—a degree of inclination or obliquity which varies more or less almost in every individual: one horse is said to have shoulders *oblique*, another to have them *straight*, depending on the more or less inclined position of the blade-bones; and the former is valued as a riding-horse, and justly so, while the other is despised and rejected. The reason of this will appear evident when we come to learn that every time the shoulder is put in motion the scapula makes a sort of partial revolution on its own centre or axis, which at first slightly depresses, but instantly afterwards elevates and advances its base or upper part, while its lower part or obtruncated apex, which was at the commencement of the movement advanced, recedes until the scapula has nearly or quite revolved into a straight or upright position. The more oblique the original position of the scapula the greater will be its

revolving sweep, and the more free and loose the action of the shoulder, as will appear evident from the following diagram:—



Taking the graduated quadrant A B to represent the arc the scapula describes in its imperfect revolution, it is manifest that, setting the limit of its motion forward as the figure 1, its sphere of revolution will be increased in proportion as its inclination or obliquity is greater at the commencement: a scapula whose base inclines to the figure 7 in the scale will have two degrees of extent of action more than one which only reaches the figure 5, and two less than one whose base descends so low as the 9th degree.

The first movements of the shoulder-bones, those that lift the limb off the ground and advance it, consist in a limited revolution of the scapula, in which its base turns backward and downward, its apex forward and upward, and in a simultaneous flexion and elevation of the humerus, the effect of which is to diminish the distance (represented in the *fig.* by the dotted line E) between it and the scapula. The projection of the limb in front of the body is effected by an extension of the humerus on the scapula, and, in rapid or forced movements, by an advance (not a revolution) of the scapula as well: but the instant the foot is grounded and becomes a fixed point and fulcrum, the scapula commences a counter-revolution, its base moving forward and upward, its apex backward and downward, and the humerus returns to its original semi-flexed position. Whether the limb moves upon the body, the foot being off the ground, or the body moves upon the limb, the foot being on the ground, in either case the scapula is in motion, its revolution, in regard to its summit, being backward and downward in one case, forward and upward in the other.

The length, as well as the obliquity, of the scapula will have

an influence on the action of the shoulder, it being manifest that a body revolving upon its own centre must describe arcs or sweeps great in proportion to its length; hence the value of a deep shoulder: though, as regards the scapula itself, the muscles attached to and moving it will necessarily be short in a case where the bone is disproportionately long, and *vice versâ*. When the scapula is placed nearly upright, or is of disproportionate shortness, there cannot be that extent or freedom of action in the shoulders, at least, there cannot be that *projecture* of the limb that there is in opposite conformations. The movements of the fore limbs must necessarily be confined or imperfectly effected, and where that of the hind limbs happens to be "good," or of a more perfect kind—as is not infrequently the case—there will be great danger of the horse being, by the comparatively superior action in the agents of progression, precipitated forwards.

A good shoulder not only possesses depth and obliquity, but, to complete its perfection, "lies well into the body." How often do we discover upon the superficies of the shoulder a bump a little below and behind the withers, marking the situation of the summit or base of the scapula! In the generality of instances this arises from the ribs being arched in that part, which precludes the possibility of the scapula being properly accommodated to them: a flattened body applied against one that is convex must necessarily project as the latter recedes from it; and the only way in which this can be obviated is, either to diminish or alter the convexity, or to give to the straight body a concave form; both of which accommodations are seen exemplified in what we call "good-shouldered horses." The bump is caused by the top of the scapula standing out from the convexity of the ribs: where this is not the case, the surface appears and feels uniformly level, and where muscles or fat abound, is so smooth that we in vain seek the traces of the scapula through the skin. The uprightness and the length of the scapula likewise, in some instances, operate in producing the bump. In any case, the bump betrays mal-disproportion or mal-apposition of parts: in other words, would not be present if all had been formed and fitted to perfection.

A shoulder, then, that possesses depth, obliquity, and uniformity, is said to be "good;" and for the purposes of those springy actions and paces which are most agreeable to and admired by the rider, good it most unquestionably is: it is good for action, good for speed, good for spring, and as a point of beauty is veritably indispensable. Still, though this be confessedly the prototype, we are not to set all other kinds and descriptions of shoulders down as faulty and objectionable. For the carriage of heavy burthen, and for heavy draught, I believe a straight or upright and

rather short shoulder, provided it possesses the necessary substance or muscularity, to be advantageous: laborious draught does not admit either of a horse taking long steps or of going at any but a slow pace; and on abstract mechanical principles, a horse whose shoulder is short and upright is capable of supporting more weight upon his fore limbs than another in whom it is lengthy and oblique: the sharper the angle formed between the scapula and the humerus, and again between the humerus and radius, the weaker, as props of support, must the fore limbs be considered. A horse, therefore, with a short upright shoulder is, *cæteris paribus*, actually stronger in his fore parts than one possessing what we might call a good or handsome shoulder. Here, in fact, as in many other instances that might be mentioned, we have on the one side, *action*,—and with it spring—on the other, *strength*; and, as I said before, for cart or dray horses, where heavy draught is required, or for animals wanted to carry heavy loads, the short and upright shoulder is to be preferred to the lengthy and oblique structure.

The connoisseur is quite correct in his observation—"Such a horse cannot ride, *short* and *straight*—for the two properties are commonly associated—as his shoulders are:" but let him not on this account reject the animal as useless: it is, as I said before, the sort of shoulder for harness, and for supporting weight, providing it possesses the required muscularity, and providing the horse has action with it: for, be it observed here, though action may be regarded as the natural product of an oblique shoulder, yet are there many instances where it is found to result from opposite conformations, as well as instances of its absence where one would from appearances prognosticate it to be present. This discrepancy between form and action it is that is so often baffling our judgment and furnishing us with physiological problems which, on too many occasions, we find ourselves unable to solve: nevertheless, the subject, intricate and difficult as it is, shall receive some attention when I come to speak of "action."

Let the action of the horse be what it may, however, should the shoulders be upright we may be certain of the loss of spring in his movements being such as to make him any thing but easy or accommodating in his movements to his rider: he is complained of as being "a rough trotter"—"a bone-setter;" and the higher his action happens to be, the greater will be the concussion. Mr. Youatt has compared the spring produced by the play of the scapula upon the humerus to the spring of a carriage; and in its operation it is a happy illustration of this piece of animal mechanism: the only difference being that in the coach-spring the elasticity resides in the steel of which the spring is manufactured;

whereas the bones derive their spring from the elasticity of the material—muscle—by which they are connected together and united to the body.

We have been considering the *depth* of the shoulder and the *position* of the bones composing it, and in the course of our inquiries have noticed its *substance* or *muscularity:* we will now explain what we mean by

THICKNESS AND THINNESS OF SHOULDER, and investigate the relative advantages and disadvantages of these counter-formations. A notion very prevalent among horse-people is, that the shoulder cannot be too thin or "fine," as they call it; and that a thick or "loaded" shoulder is only fit for harness. In these remarks truth is mingled with error, and it shall be our business to endeavour to distinguish and separate them. To set about our investigation systematically, let us first inquire what constitutes this *thickness* or *thinness;*—to what kinds of conformation the terms are applicable, or what they are commonly used to denote. A person grasps the withers of a horse with his hand, and at once pronounces his shoulders "thick" or "thin:" *thin* or *fine,* should the withers stand high and can be included between his fingers and thumb; *thick,* should the withers appear buried between the shoulders, or so broad across that the span of the hand can with difficulty grasp them: in the former case, we grasp nothing but the spinous processes of the dorsal vertebræ; in the latter, we appear to include the scapulæ as well; hence the thinness in one instance, the thickness in the other. There exists in such horses either inordinate length or shortness of spinous processes, inordinate length or shortness of scapula, or an unusual height or lowness of them *in situ,* owing to their position. "The razor-back," as it is called, is the most remarkable instance of inordinately long spinous processes, and this is commonly combined with obliquity, and consequent lowness of the base of the scapula: altogether presenting an example of "a *fine* shoulder;" though of one that often proves on examination to be strangely deficient in substance. These razor-backs and fine shoulders are frequently seen in very old horses: indeed, it is a common observation, that "shoulders grow fine with age;" the interpretation of which appears to be, that the shoulders participate in that general process of absorption which is known to pervade the animal frame during the decline of life. In young horses, at the growing time of life, the shoulders are thick by nature, and do not, until the adult period is completed, attain that degree of thinness or fineness which they in after-life are found to possess; coupled with which fact, and in corroboration of it, stands the observation so current among breeders and dealers, that their colts are certain to "rise" and "fine" in their

shoulders; and which is now, by all purchasers of young horses conversant in such matters, received as a general law of Nature, to which exceptions are comparatively rare. In my next lecture I hope to be able to shew, in a statistical manner, to what extent, and at what age, such growth may be expected to take place: in the mean time I would observe, in reference to it, that it appears to consist mainly or entirely in a shooting-up of the spinous processes of the vertebræ. We see the colt with thick clumsy shoulders in consequence of his scapulæ reaching as high as the tops of his spinous processes: we examine him grown to a horse, and find him with finely-formed shoulders—with scapulæ no higher than they ought to be, and with withers admirably raised; and, withal, we discover on admeasurement that he has actually risen one or two inches in the withers after, to a common observer, he might have been supposed to have attained his perfect growth.

[To be continued.]

A CASE OF LITHOTOMY ON A HORSE.

By Professor Dick, *Edinburgh.*

Edinburgh Veterinary College,
18th June, 1842.

My dear Sir,—I send you the following account of a case of lithotomy, which, being rare, may be interesting to your readers.

The subject of this operation was a white pony, about thirteen hands high, from sixteen to eighteen years old, which had been purchased at Falkirk tryst a few days previous to my seeing it, and, as I have learned since, had been in the possession of a clergyman in Sterlingshire for a number of years, and known as the "Arabian pony." It had been purchased for a small sum at the tryst to go in a baker's cart, but, on its being brought home, it was found to be unwell and off its feeding: it was, therefore, brought for my inspection, and from its penis being slightly protruded from the sheath, and a constant dribbling of urine from the urethra, accompanied with severe straining, tucking up of the belly and roaching of the back, I was convinced that there must be a stone in, or some serious disease affecting, the urinary passages.

The general appearance of the pony was dull and languid; very thin in condition; its pulse about 50, and feeble. On introducing

my hand into the rectum to examine the state of the bladder, the pony strained to resist its being passed, groaning from the pain this straining occasioned. On passing my hand into the rectum, and examining its inferior surface, I found two large tumours, apparently in connexion with the neck and cavity of the urinary bladder. The most posterior of them was of a large size, of an oblong form, and extending from the left tuberosity of the ischium obliquely across the outlet of the pelvis to the right thyroid foramen. The swelling felt soft and yielding, of a lobulated nature, and pressure on this part alone did not seem to give much pain. The anterior tumour rested upon the symphysis pubis: in size it was considerably smaller than the former. It felt slightly roughened and hard, of an ovoid form, and seemed to be contained in the cavity of the bladder, the coats of which felt firmly contracted upon it. With a little care, however, these could be raised from it, and could be made to slide upon its surface, which motion produced immediate symptoms of pain, followed by the discharge of a few drops of bloody urine.

Extending forward on each side of the bladder, between it and the rectum, the ureters were found to be enlarged to four times their natural size, and somewhat tortuous in their course. On being grasped between the fingers, and pressed in the direction of the urinary bladder, their size became diminished, in consequence of their contents being discharged into the comparatively pre-occupied bladder, from which it was immediately discharged by the urethra.

From the circumstances indicated by this examination I drew the following conclusions: first, that the posterior swelling was a large tumour developed around the prostatic portion of the urethra, and extending along a great portion of the right side of the bladder, between it and the levator ani muscle, and, from the colour of the pony, and its lobulated feel, I suspected it to be encysted melanosis. It was not in communication with the cavity of the bladder, as firm and continued pressure did not produce any change in its size. I also concluded that the anterior tumour was a calculus.

The only means which I could, therefore, propose for the relief of the animal was that of extraction. From the smallness of the animal, however, the pre-occupation of the outlet of the pelvis, and the large size of the stone, I anticipated considerable difficulty in the performance of it. But, as the symptoms were urgent, and as no other means could be advised, the owner, after being made aware of the circumstances, agreed to subject the animal to the operation, which, after a week's preparation, was accordingly performed on the 1st of the present month.

After casting the animal with side lines, and properly securing his hind legs by a piece of web passed under his back, so as to keep his hocks well apart, he was lifted upon an operating table about two feet and a half high, and properly supported on his back with straw under and on each side. The rectum was then emptied with the hand, and the bladder slightly distended by injecting half a pint of tepid sweet oil along the urethra, the orifice of which was secured by the hand of an assistant. A slightly double curved staff, about twenty inches long, was then introduced along the urethra, and carefully carried into the perineum, as far as the angle of the canal would permit.

With a stout common scalpel I then made an incision through the integuments along the left side of the perineum, commencing about two inches in front of the verge of the anus, and extending downward and outward along the base of the ischio-rectal fossa. This incision extended only through the skin, the superficial perineal fascia, and, at the anterior part, a few of the fibres of the retractor muscle of the sheath.

The second step in the operation consisted in securing the internal pubic artery, which, from its large size and superficial course at this part, I considered in danger of being wounded either in its trunk or primary branches, which would have impeded considerably the subsequent part of the operation. For the purpose of obviating all these, I considered it most advisable to secure the common trunk before it gives off any of its branches to the rectum or perineum. This I succeeded in doing by making a dissection along the inside of the tuberosity of the ischium at the posterior part of the wound: I thus cut at once into the urethra upon the point of the staff, which immediately protruded into the wound, and from which the contents of the bladder began to escape. I then put my finger on the point of the staff, and pushed it backwards, which introduced my finger into the urethra, where it was retained; and, the staff withdrawn, with the fore and middle fingers of my right hand, I then separated the parts about the neck of the bladder from the rectum and side of the pelvis as far as I considered necessary. A straight grooved staff was next passed, by means of my finger, which I had retained in the urethra, into this canal, and carried onwards to the bladder, on entering which it at once struck against the stone, producing a clear metallic sound.

I then passed along the groove on the staff a curved probe-pointed bistoury, with the cutting edge on its convex side, similar to Sir W. Blizard's lithotomy knife. With this I divided the remaining portion of the urethra and the neck of the bladder, cutting both in passing it inwards, and, when withdrawing it in the

direction of the original wound. I then introduced a pair of forceps along the staff into the bladder, when the latter was withdrawn, and, on expanding the forceps, I immediately grasped the end of the stone, and endeavoured to extract it in the axis of the pelvis and of the wound. In attempting this, I felt considerable difficulty, in consequence of the tumour formerly alluded to falling before the clams of the forceps, and the stone so occupying the wound as to act like a valve in resisting their extraction. On increasing the force, a part of the stone gave way, and was removed in pieces in the blades of the forceps. Repeated attempts were made, in which the stone was always readily grasped, but the same difficulties were experienced in attempting its removal.

The hand of an assistant was then introduced into the rectum, to endeavour to fix the stone more securely, and so as to enable the forceps to grasp it more completely; but although, by this means, the stone was more securely grasped, still the same difficulties were opposed to its extraction. Finding such to be the case, I then endeavoured to crush the stone, and succeeded so far as to remove a considerable portion of one of its sides; but it was found to be so hard, and its size so great, that to have persevered in this would have subjected the animal to a more protracted operation than I felt myself justified in doing.

Causing the hand of the assistant to be removed from the rectum, I endeavoured to pass my right hand through the wound into the bladder, and, pushing aside the tumour, to endeavour to extract the stone with it, as if by a scoop. Finding that it was possible to be effected in this manner, but my hand, being bulky, meeting with considerable resistance, Dr. Mercer, who was assisting me, observed this, and suggested that, as his hand was considerably smaller than mine, it would be more easily introduced: this, after a little care was effected, and his hand passed into the bladder. His fingers passed between it and the stone until he got them fairly beyond it, and had it hooked into the palm of his hand. After considerable force being used, he succeeded in extracting it, but not without considerable difficulty, in consequence of the same opposition.

As the surface of the stone had been considerably broken down by the repeated attempts to crush it, the bladder was carefully washed out with a syringeful of tepid water, and the pony was lifted down and unloosened. It immediately got up, and walked steadily, although a little exhausted, into a loose box.

The blood lost during the operation would not exceed a quart, and which was entirely venous; and the small quantity thus lost I attribute to the precaution of securing the pubic artery at an early part of the operation.

Shortly after being put into the box, an elastic tube was introduced into the bladder, and secured by tapes, with the external orifice pointing downwards, and, as the pulse was feeble, and a slight chill had come upon him, I ordered a little warm wine and water, which soon rallied him, and shortly after he took a little mash. In the evening he began to water through the tube, and the wound had become a little swollen and inflamed, accompanied with a slight discharge of a bloody serous fluid. About 11 P.M., he had another rigor, which was again checked by a little warm wine and water. During the night he was watched, and appeared to be going on well; but in the morning was again attacked with a chill, from which, after taking a little more wine and water and hand-rubbing, he seemed relieved. About noon, however, he began to droop; the extreme parts of the body became exceedingly cold; the pulse very feeble; and he gradually sunk towards evening, when he died.

On examination on the following day, no traces of inflammation of the peritoneum or pelvic viscera were found; and on making a section of the pelvis to see the parts implicated in the operation, it was found that no injury had been inflicted in the peritoneum and rectum, which were entire.

The interior of the bladder was rough and flocculent; the ureters very much enlarged and thickened, and they seemingly had acted as accessory bladders.—The tumour above referred to was, as suspected, melanotic. It surrounded the whole of the lower and right side of the neck of the bladder, and extended forwards along the greater part of the right side of the body of the bladder; but it had not been injured during the operation. When removed from its connexions, it measured seven inches in its long diameter and four inches in its short, and weighed twenty-four ounces. No other morbid appearances could be found; and it appears to me, therefore, that death resulted from the prostration produced upon the previously weakened constitution of the animal.

The larger portion of the stone, which was removed entire, weighed seven ounces and three quarters, and, from the considerable portion which had been broken off by the attempts to crush it, it could not have been less than ten ounces. As yet it has not been analysed, but I will communicate the result as soon as it has been done.

ON PARTURITION IN THE COW.

By Mr. W. A. Cartwright, *V.S., Whitchurch.*

RIGIDITY OF THE OS UTERI—FALSE LABOUR PAINS—EXTRACTION OF THE CALF, AND RUPTURE OF THE OS UTERI.

On Tuesday, the 29th of March, 1842, about ten in the morning, I saw a three-year-old heifer that was straining violently. The particulars are as follow:—She was within about two days of calving, and on the previous night was left well: this morning, about five, she was found straining violently, and had her bulk (vagina) forced out a good deal. Two trusses were now put on, and I was sent for.

Symptoms.—She was lying on a dunghill, and straining very much, and some parts of the vagina and rectum were forced out. I had her driven into the cow-house, and examined her. The os uteri was not in the least dilated, but it felt larger and harder than usual, and projected a good deal into the vagina. On putting my arm a little way up the rectum, I could distinctly feel the head and feet of the calf, and which were not far from their natural position; but when she strained, the feet and head were forced violently against the rectum, and I was fearful that the former would be forced through the rectum, as they were almost exposed at the anus. During those throes, large tumours were formed outside, both at the anus and vulva. I took about three quarts and a half of blood, and gave opii ʒi in solution. In the course of three hours afterwards the symptoms were not so violent or frequent; but as I was going to leave, I thought proper to give another drachm of opium and sodæ sulphatis ℥xij, and ordered but little solid food to be given. I also particularly left word, that if pains came on to keep the feet down, so as to enable them to force more against the mouth of the os tincæ.

30*th.*—About six this morning I saw her again. I found that an adviser of theirs had been sitting up all night, during which time he had, rather officiously, repeatedly examined the os uteri, and had tried to dilate it, and had also pulled out portions of hard lymph therefrom, and had likewise got the feet and head into the passage. I also learned that four or five persons had been pulling very hard at the feet and jaw, with ropes attached thereto, but could not get the calf away; and when I saw her, I found her in this state:—On examining her, I found that the calf was properly presented, and I advised her to be left for an hour or so, as the os uteri was not sufficiently dilated for the fœtus to pass through.

8 A.M.—We now tried to pull it away, and I had three persons placed at the cords, while I tried to dilate the os uteri. While they were pulling, the os uteri was, I should think, about five inches out of her body, and it was excessively tight around the head; but, from this force, the stricture became ruptured to the extent of four or five inches. The calf then immediately came away, and the uterus became inverted. We separated the placenta as well as we could, as it was not at all sufficiently loose to come hastily away, and returned the uterus, and gave opii 3i in solution, and then left her.

As the owner was not over anxious to pay for journeys, although a rich man, I did not see her until the 8th of April, when I found her appetite very indifferent, and she straining a good deal. I ordered some cordial anodyne medicine, and, in the course of a week or so, the straining subsided, but she continued to feed badly and get worse.

19*th*.—I heard that she was alive, and went over and found her very weak; but the straining had entirely left her, and there was not the least swelling about the vagina. On introducing my hand up the vagina, I dislodged a great deal of, to all appearance, a thickened inner membrane of the uterus, in a decayed state. I pulled it out of the uterus, and it seemed as if it could not otherwise have come away, as it was in pieces seven or eight inches square, and a quarter of an inch thick. I hoped she would have rallied after its removal, and I ordered some cordial medicine to be given.

23*d*.—She was lying in the cow-house in a helpless state, and the owner had her killed.

Examination.—The uterus had contracted as well as ever I saw one. It was of very small capacity, and contained not above a quarter of a pint of matter. There was a distinct cicatrix of about four inches long over a part of the os uteri and vagina, and where, no doubt, the rupture had taken place. I would say, taking the os uteri, uterus, and vagina all together, there was little amiss with them, more than after an ordinary case of parturition. The os uteri was a little rigid, but, perhaps, scarcely more than usual. The lungs were very light and emphysematous, and there were, in some of the bronchial tubes, small pieces of coagulated matter; but there was not any thing of much consequence, unless the emphysema may be thought so, and this was not on the surface, but in its substance. Every other part was sound.

Observations.—In the volumes of THE VETERINARIAN, there are several interesting cases recorded, where the os uteri has been so contracted or rigid as to require incision being made

through it, so as to enable the head to pass; but the cases requiring such an operation, I think, are not very common. In the foregoing case I do not believe the cow was fairly at her full time, and, I think, instead of using such violence, I ought at once to have removed the fore legs, which, probably, would have made sufficient room; indeed, it was my intention, the next minute, to have done so, had not the rupture taken place. I do not see why I might not have made an incision or two into the os uteri, as it could have been easily done, and with less injury than in rupturing the parts. This case clearly shews that a rupture of the os uteri is not immediately fatal, as too often is the case in the human subject. I really did not see any thing in the post-mortem examination sufficiently to account for death, but attribute it to general exhaustion, from the pains before and during labour, and from the irritation caused in throwing the sloughs off from the uterus—in other words, from constitutional irritation. I also think that great neglect was shewn towards her by the owner, in not having had sufficient recourse to tonics. Had they been properly applied, I am inclined to believe that she would have got well. In many cases cattle will bear stimulants much better than horses.

CASE II.

FALSE PRESENTATION—EXTRACTION OF THE CALF.

March 18*th*, 1841.—A four-year-old cow, belonging to Mr. Dickins, of the Black Park, exhibited symptoms of calving about six this morning. Towards eleven I was sent for, but was not at home. Several farriers and farmers were then summoned, but they could not extract it. At six in the evening, I was particularly requested to go over, when I found all of them there, but still unable to get the fœtus away. The fore legs they had removed, but could not get the head up or in the passage.

It would appear that the calf lay upon its back, with the head doubled under its neck; and when I commenced I found the passage excessively dry and swollen, and the head sunk down towards the udder, and the uterus contracted around it rather firmly. I then put a cord on the lower jaw, but, by pulling, the jaw broke off. I next, with great difficulty, got a blunt hook, with a rod and handle attached to it, into the orbit, but on pulling at it the bones became separated, and the hook slipped out, as it did not lay hold of the skin. I then tried to fasten it about the articulation of the jaw, but it glided off along the edge of the jaw. The cow then got up, and soon lay down on the other side. I then put a sharp-pointed hook with a rod and han-

dle into the orbit on the other side, by which means we got the nose of the calf into the passage, where it became firmly impacted.

We then got the blunt hook fastened into various places, by which means we drew the calf's head out of the body, but at the chest it was faster than ever; and all our strength, seven or eight of us, could not get farther on. On feeling the front of the chest I could detect a sort of elastic tumour, as if it contained air, into which I put my penknife, and made an opening into the chest; when, immediately, out sprang the lungs of the calf between the two first ribs, in an emphysematous state, and which I removed, and on doing so I found that the vertebra near the bottom of the neck had been completely luxated by excessive force. The calf now came out without using half the force we had previously done, and soon after the cow got up and ate some hay and a bran mash.

Observations.—The great difficulty in this case arose from proper help not being earlier at hand, as the parts when I saw her were become so swollen that one could only just get the arm up, and thus giving us little room for action. The farriers urged me, when the calf was righted, that nothing but strength could remove it; but had I been alone, I should have removed it by taking out the thoracic and abdominal viscera, and cutting the ribs off, by which means nothing near the force would have been required. When excessive pulling was used, I could hear something give way or tear, like a cracking or separation of some joint.

This case also shews clearly how very tough the hide of a calf is, as the hook retained its hold after great force had been used for a considerable length of time. She got well in the course of a few months; but I hardly expected it, from the rough usage which she had sustained.

CASE III.

BREECH PRESENTATION—EXTRACTION.

February 8th, 1841.—I was this day sent for, at about five o'clock, P.M., to attend a cow belonging to Mrs. Price, of Bubney, that had been endeavouring to calve all day, and the calf was ultimately found to be in a wrong position.

On introducing my arm I found that it was a breech presentation, and that the hind legs lay down towards the udder. In order to accomplish my object, I first tied a cord round each hock; I then got a person gently to pull at the near one, while I tried to reach and get the foot up into the vagina; but I could not. All this was done while the cow was standing.

She now lay down, and I had her well bolstered up with straw, so as to raise the hind quarters, and she lay on the off side. I now got a person to push the calf back towards the thorax, by forcing the hand against the hind parts, while I laid hold of the foot; but by this proceeding we gained very little ground.

As she was a very roomy cow, I got the man to firmly and steadily force the point of the hock forwards, while I pulled at the foot, by which means I got it up, and brought it straight into the passage.

By getting the near leg up more room was made to raise the other, and which, by pulling at the foot with a pretty strong effort, we also got straight, and so had both the legs in the passage.

We now secured a cord around each leg, just above the fetlock, and applied a little oil on the vagina, and commenced pulling; but we soon found that the calf was completely stopped by the smallness of the passage: we then fastened a necking strap from the hams around each leg just above the hock, by means of which it made more room to pull at and nearer the parts. By severe pulling we got the hind parts through; but when we arrived at the chest the passage was tighter than ever, and we almost despaired of accomplishing our object.

I then tied a part of the cart-rope round the body of the calf, by which means two of us pulled at it with great effect, and so we got it away. We then gave the cow some gruel, with nearly a tea-cupful of brandy in it; and soon afterwards she got up, and we applied a truss. She also ate a little hay, and then lay down.

She was ordered to be fed moderately, and in the course of the night she cleansed.

10*th*.—This day the owner called, and said the cow had been going on well; but he thought her very hot and feverish, and not so well this morning, and she had rather failed in her usual quantity of milk. I therefore went over, and found her as described; but her bowels were acting well. She was shuffling about on her hind legs, like a cow that had the epidemic coming on her. I gave a little medicine, and took two quarts and a half of blood from her, and ordered her to be well fomented about the hind parts. In a few days after this she got better, when we commenced giving slight doses of cordial medicine, and in the course of a short time she quite recovered.

Observations.—To extract a calf in this position will often be found a very difficult affair, especially in heifers, or those cows whose passages are small. I know of a cow that had twins, one of which came away in the natural position, but the other was a breech presentation. In this case the calf was not a very large

one, and a rope was placed round each hind leg, close up to the body, and so we pulled the calf away, and the cow did well.

In some cases, where there is a difficulty or an inability to get the hind legs into the passage, we may fasten cords round the hocks, and draw them forward, so as to cut them off there, or we may cut through the flesh high up, and saw the bone off.

In some of these cases I have often thought an instrument, somewhat upon the principle of the strong shears now used for cropping hedges, might be very useful, either merely to fracture the limb, or actually to cut it off, and thus to enable us to get the leg up or into the proper position.

There are breech or other presentations where the calf is too large across the hips to admit of it passing. In such cases a little room might be obtained by dividing the symphysis pubis, when one thigh would slip by the side of the other more closely, and cause the calf to be more easily extracted.

CASES OF UNUSUAL AND DIFFICULT PARTURITION.

By J. B. N. C. Drouard, *M.V., Montbard.*

False Presentation and Hydrocephalus.—On the 10th of July, 1834, I was requested to attend a mare labouring under difficult parturition. She was nine or ten years old, in good condition, well formed, and had produced and reared three or four colts.

On introducing my hand into the womb, I felt the breech and tail of the fœtus, but its hind legs were bent under its belly.

In this position it is ordinarily sufficient to push back the breech—to insert the hand, and carry it along the thighs to the legs—to seize and to flex them, and to draw them through the vagina.

At other times, on account of the size and the length of the extremities, or their distance from the pelvis, the flexion cannot be obtained. They could not in the present case. The breech occupied the passage—the thighs were turned backward along the abdomen, and, in defiance of all my efforts to push back the projection, I could scarcely move any part of the unnatural presentation. The lips of the vulva were beginning to become tumid; the animal was exhausted by efforts to get rid of the fœtus, and she was in evident danger. There remained for me but two methods of accomplishing the birth, viz. to attempt the operation of embryotomy, or to forcibly extract the hind extremities. For

this purpose, a strong hooked instrument was inserted on the right side, into the muscles that cover the ilio-femoral articulation in the fœtus. Six or seven persons forcibly pulled at this instrument, while others supported the mare, and prevented her from falling. As soon as the skin and the muscles began to give way, the femur became disarticulated, and was drawn out.

I thought, after this first operation, that I should have been able to extract the other portion of the fœtus by ordinary means; but tumefaction of the parts increased so rapidly, that I was compelled to have recourse to the same proceeding with regard to the other extremity.

After the extraction of the two extremities, a hook was inserted into each of the acetabular cavities, and the fœtus was drawn along the uterus with much facility, until the head was brought into the pelvis, and seemed to present an insuperable obstacle to the accomplishment of the operation.

The hand was introduced into the uterine cavity, and a monstrous head was recognized, in which considerable fluctuation was readily detected, and that left no doubt of the existence of hydrocephalus.

I was preparing to puncture it, when my assistants, profiting by an effort of the mare, pulled all together so strongly, that they brought it out, and a cranium of such monstrous size was scarcely ever seen before.

The patient was put on low diet, and emollient cataplasms were placed over her loins. Soothing injections were likewise thrown into the uterus. At the termination of the fourteenth day she was perfectly recovered.

The fœtus was remarkably deformed. It was small and poor, but its cranial cavity was in every part strangely developed, and more on the right side than on the left. On the least displacement of the head, we could both see and feel the fluctuation of the fluid within.

A case in which the head was turned backward, and the neck of the womb was so contracted that two or three fingers could scarcely be introduced.—Embryotomy.—Cure.

On the 14th of January, 1838, I was desired to visit a cow in the act of parturition. She was four years old, and in high condition. It was her first impregnation, and she had exceeded the time of parturition by fifteen days. During the last four-and-twenty hours she had not ceased to get up and lie down again, and to make the strongest but vain and useless efforts to produce her calf.

On my arrival, I found her lying down; her pulse was small and accelerated, and her labour pains seemed to be gradually decreasing.

On introducing my arm into the vagina, I found the neck of the womb was firmly closed, so that I could scarcely introduce a finger. By gentle manipulation, however, I by degrees introduced my hand.

The anterior extremities were naturally presented, but the head was turned back in such a manner that the lower jaw was the superior one. The calf appeared to be dead.

I waited a little while, thinking that the dilatation would be presently more easily effected. She was stretched at her length on the litter, and from time to time some slight contractions of the uterus could be felt.

At length, however, I determined to endeavour to effect the parturition, and, in order to rouse the powers of nature, I administered a bottle of wine warm and sugared. I then introduced my arm, covered with oil, and grasped one of the anterior extremities, and passed a rope round it, the management of which I entrusted to an assistant. I next searched for the other extremity, to which—having readily found it—I fastened another cord. The head remained; but a difficulty presented itself. I could not without the greatest force introduce my arm, and, when I had done so, it was pressed upon and benumbed by the fœtus, and I found that I must amputate one of the limbs before I could relieve the patient.

I took a bistoury, and, drawing down the left leg, I effected a circular incision through the integument around the knee: I then effected a similar incision on the internal surface of the limb, which enabled me to dissect still higher, until I arrived at the humero-cubital articulation, and then, the lips of the vulva being held back, I prolonged my incision as far as I was able. Four assistants then began to draw the cord gradually but firmly; and in an instant the muscles by which the shoulder was attached to the thorax were torn away, and the limb was drawn out entire. The same operation was immediately afterwards performed on the other limb, and with greater ease.

By means of this, however, the head, curved in the way that has been described, was pushed farther backward in proportion as the chest of the fœtus filled the passage, and, as it was beyond the reach of my arm, I employed a crotchet (hook), which I forced between the first ribs, and, pulling with my right hand, I so brought down the head that I could lay hold of the lower jaw. After some little manipulation, I was enabled to grasp the head, and to bring it into the natural position, but I could not pass it

through the symphysis pubis. Being thus driven to the employment of force a second time, I again had recourse to the crotchet, and planted one in the left orbit, and the other on the lower jaw near the maxillary symphysis. Then, after assuring myself of their being securely fixed, I employed six persons to pull at the rope, and in a very short time the fœtus was extracted.

The exhaustion of the cow was, at first, extreme; but, a few hours afterwards, she got up of her own accord, and searched for something to eat. Nothing, however, was allowed but a little gruel and bran mash. The after-burden was expelled during the night.

15*th*.—She was better, and searched about for food; she likewise made frequent efforts as if to expel something from the vagina. Emollient cataplasms were placed on the back and loins, and water-baths were applied under the belly. Anodyne injections were also administered.

Ten days afterwards she appeared to be perfectly well, and returned to her former habits.

The head turned backwards, the fœtus dead, and putrefaction commenced. The whole body of the fœtus become emphysematous.

On April 27, 1839, I was requested to see a cow, of good constitution, six years old, and that had been several days in labour: she had been attended by a cowleech, who had abandoned her after having submitted her to the most cruel usage.

She was lying down, and could scarcely get up. Her horns and ears were cold, and the pulse small and irregular; the teats were flabby, and she moaned from time to time. The lips of the vulva were engorged, and of a livid colour.

The fœtus had been dead several days, and there seemed little or no doubt that she would soon follow. The engorgement of the vulva, and the dreadful excoriations and wounds that appeared, too plainly shewed the violent and ill-directed measures that had been adopted.

On introducing my hand, so great was the swelling, that I could not assure myself of the situation of the head; I therefore, as in the last case, had recourse to embryotomy. After having separated and drawn away the fore extremities, I could ascertain that the head of the fœtus was turned completely back towards the thorax; but the engorgement was so great that I could only touch one of its ears. Finding it impossible to do any thing with the hand, I again had recourse to the crotchet, in order to get it, if possible, into the natural position. I succeeded in implanting the crotchet in each orbit, and soon the head and neck,

and a great part of the chest, presenting themselves successively, were extracted without any great difficulty; and I was beginning to hope that our object would be accomplished without much farther difficulty, when I found that I had to overcome an obstacle on which I had not sufficiently calculated,—the great distention of the abdomen. I extracted the principal viscera, but then I found that I was far from having accomplished my object. The haunches and the croup—strangely increased in size, from the emphysematous process that had been set up—seemed to bid defiance to all my efforts. Eight men were employed to endeavour to force them away. The rope tore completely through them, but the divided portions remained in the uterus.

The certain loss of the beast—the cadaverous smell which was exhaled from this hot-bed of putrefaction—the apparent impossibility of extricating the haunches—the perspiration with which I was covered—the fatigue which I felt, and the danger to which I was exposed by my arms being longer plunged in this focus of mischief—almost induced me to abandon the case.

After having rested, however, for a few minutes, I returned to my work. I pushed back the haunches of the fœtus as far as I possibly could, and then, after numerous efforts, I succeeded in implanting a crotchet in one of the thighs: an assistant pulled at the rope while I worked at the haunch, until I had so far loosened it as to be able to move it a little from one side to the other, and, at length, was enabled to reach the extremities. I had not forgotten the obstacle of the haunches and the croup; so, after having made several vain and useless efforts to draw it out, I did not hesitate to proceed to tear off one of the extremities by means of a crotchet implanted in the articulation of the thigh with the haunch: having accomplished this, the remainder of the trunk was easily drawn away.

At the close of this operation, the animal was so exhausted that she lay perfectly motionless, and the cold and discoloured vulva was dreadfully swollen.

We fomented and gently wiped the parts, and gave her a bottle of warm wine. Some hours afterwards she got up, shivering and trembling all over, and beating the ground with her feet as much as she had power to do. A bloody fluid was discharged in great quantity from the vulva, and she made numerous efforts, as if she was attempting to expel the womb.

The proprietor then, seeing the sacrifice that must be made, determined to destroy her, in order to save as much of her flesh as he could before the evil proceeded farther.

Expulsion of the fœtus through the abdominal muscles.

A sheep, four years old, that had in the preceding year easily lambed, had again arrived at the time of parturition. During several days she had made numerous efforts to expel the fœtus, but nothing presenting itself, the proprietor determined to obtain the aid of an old shepherd, celebrated for his supposed adroitness in these affairs. He introduced his finger, and found that the absence of all dilatation of the neck of the womb forbad the hope of any speedy delivery, notwithstanding the efforts and sufferings of the animal.

Two more days passed, and no advance towards parturition was made. During the third and fourth day the labour pains seemed to diminish, and, at length, altogether ceased. The animal by degrees regained her appetite, and there was not the slightest indication of continued suffering.

A month now passed away, when her rumination began to diminish. She was out of spirits, was always found lying down and separated from the rest of the flock. Her illness rapidly demanded the succour of art.

On the 15th of November, 1834, she was in the following state:—out of spirits—weak—frequently grinding her teeth—the eye sunk in the orbit—the respiration accelerated—the pulse small, and scarcely to be felt: there was an œdematous enlargement commencing at the umbilical region, and spreading over the surface of the belly; the skin of the belly was cold, black in its centre, and seemingly struck with death. Some light scarifications were practised, and a bloody serosity of an infectious odour escaped.

Diagnosis.—The fœtus, dead a long time ago, is putrefying—the putrid matter is absorbed—this gangrenous tumour is the consequence of it, and she will be destroyed by the universal infection. The integument of the abdomen is becoming absorbed or involved in this process, and particles of wool can be traced through the attenuated skin. It is either an extra-uterine gestation, or a fœtus has escaped from the uterus.

We caught her and laid her on her side, and, enlarging the wound that was beginning to form, we detected a fœtus, whose back rested on an opening effected in the umbilical region.

The incision, however, was not sufficiently large, and we lengthened it in order to assure ourselves of the true situation of the fœtus, which, in a state of complete putrefaction, presented the head, and the two anterior extremities, close to the natural uterine orifice, as if it would have escaped on its back through that passage. We easily disengaged the putrid mass, and removed it.

The ewe lying on her back, we brought together the edges of the wound by means of the suture that is generally used for wounds penetrating into the abdomen. One part of the tissue which surrounded the opening was in a gangrenous state, and would soon be eliminated if suppuration could be established. We gently applied an ammoniacal liniment on the part, covered it as quickly as we could with a bandage, and gave her a little warm sugared wine.

On the morrow, and for some days afterward, she was much depressed, and would not take any food. The suture was not in the slightest degree disturbed. The same means were used externally, and some light, tonic, analeptic medicine forced upon her.

Eight days after the operation the appetite began a little to return, and suppuration was established in the wound. It became more abundant, and, with some softened and putrefied portions of the uterus and integument, the envelopes of the fœtus were discharged. The suture had eaten through the membranes, and no longer closed the wound; and a part of the epiploon, of a deep brown red colour, had escaped, and formed a hernia. This was cut away, and an approach of the edges of the wound was again attempted, but, as may be readily supposed, very imperfectly accomplished. The wound was preserved as much as possible from contact with the air, and a bandage was contrived of a corset, laced, which passed round the body.

Every day the wound was dressed with camphorated tincture of aloes, and with chloride of lime, diluted with water: soup and thickened milk were given internally.

For some considerable time afterwards, offensive matter was occasionally discharged from the wound. The strength of the animal increased more and more every day; rumination was established; and healthy granulations began to form. In forty-five days the cicatrization was complete.

Six months after the accident she had recovered all her *embonpoint,* when she was sent to the butcher, without my being informed of the circumstance.

From the account that has been given, it will be difficult positively to determine whether the presence of the fœtus in the abdomen was the consequence of extra-uterine gestation, or whether it had remained its full time in the womb, from which it could not be expelled in the ordinary way.

In the last case, however, it would have occurred that, in consequence of a rupture of the womb, it would have been forced from its first abode, and have fallen into the abdominal cavity; but, then, the displacement of the fœtus, the escape of the fluid contained in the uterus, and of the blood, and of the fœtus itself,

and its dependencies, into parts not accustomed to support the contact of all these substances, would have given rise to the most serious accidents, as hæmorrhage, peritonitis, &c.

Here, on the contrary, after the cessation of the pains by which parturition is usually announced, the ewe seems to enjoy, for awhile, the most perfect health. These circumstances, joined to the non-dilatation of the neck of the womb, and the absence of all discharge from the vagina, lead me to believe that the gestation was extra-uterine.

The fœtus, having arrived at its full development, of necessity died. It became a foreign body which Nature would get rid of by the means which she usually employs.

Whatever be the fact, whether the fœtus dies in the womb from which it cannot be expelled, or whether it perishes in the abdomen, whence it ought to have derived its growth, we see that Nature, all-powerful in the conservation of the mother, has, independent of the means of drying up or making a kind of petrifaction of the fœtus, another contrivance that has not been alluded to by any of our veterinary brethren, and which consists in the establishment of a *depôt*, of which she makes most valuable use, on the surface of the abdomen, whether the fœtus be or be not situated in the womb.

Nature, however, in despite of all her efforts, would probably be unable to accomplish her purpose, and the mother and the offspring would perish, if man did not come to her aid, by effecting an opening and enlarging the wound, and extracting the fœtus; avoiding, by other methodical treatment and diet, the accidents which might result from an incision into the abdominal parietes.

Rec. de Med. Vet. Pratique, Janv. et Fév. 1842.

ON PHYSICKING HORSES BY PROFESSIONAL AND UNPROFESSIONAL MEN, AND ON THE PAYMENT FOR PROFESSIONAL ATTENDANCE.

By Mr. E. A. Friend, *Walsall.*

In my last communication to The Veterinarian, in attempting to display the evils attendant on bleeding, except under the direction of a skilful practitioner, I find that I have anticipated the subject of the prize essay for veterinary surgeons for the present year. Whether the subject proposed has arisen out of that paper of mine, or was previously fixed upon, I do not

know; I can only assure you that any interference with it was unwittingly done on my part.

The next popular error connected with our profession, which I intend in this paper to bring before the notice of your readers, is that of the competency of men—not professionally educated—to judge of the necessity for and the proper exhibition of physic. This I have no doubt will appear startling enough at first sight, as almost every one who has ever, a dozen times in his life, dressed, cleaned, or fettled a horse, as they respectively term it, amongst the first, second, and third rate *artistes* in the stable department, thinks himself a complete judge of the necessity for physic, and that he is the best and most proper administrator of it. This is an error which has arisen, I am inclined to think, from the owners of horses—reasoning from analogy—supposing that the operation of physic in the horse is as simple and harmless as it usually is in the human subject, though every veterinary surgeon's experience is a deposit for numerous instances to the contrary.

I know that it is difficult, nay almost impossible, to persuade our employers that the exhibition of physic ought to be left in the hands of veterinary surgeons. Most grooms, from a love of their own management, and many of our patrons on the score of economy, are averse to make application to us on these occasions; and yet I am thoroughly convinced that there is no man who has been any time in practice who could not refer to facts in his own neighbourhood that would prove a loss of property to the community, much greater in amount than the savings of all put together would produce by allowing grooms on these occasions to usurp the province of the veterinary surgeon. I am sure I could point out many instances of the loss of valuable animals from the exhibition of common physic deficient in quality or in quantity, and also from being given at a time when a purgative was really counter-indicated, and in cases, too, where no regular practitioner could have made the same mistake.

As your work is widely circulated, I should be extremely happy if I could, by any remarks of mine, restore this necessary branch of our professional art to its legitimate owners. As one who has seen much of the evil effects of the mal-administration of purgatives, I broadly assert that no groom is qualified to judge of the necessity for giving physic except in cases of excess of or long-continued condition, where, in fact, it is highly advisable to lower the stamina of the animal. If given at all as a part of medical treatment for disease of any kind, it should be under the immediate direction of a skilful practitioner. So many diseases of the horse, particularly, are so immediately connected with or so easily transferrible to mucous tissues, that a more than ordinary degree

of care is required, even in the really scientific man, to know to what extent he ought to carry this part of his practice. I should insist the more strongly on this, even with my professional brethren, if I were not well aware of the fact, that this has of late years demanded and received a much greater share of attention from them than it formerly did, and that thousands of horses in inflammatory diseases of the tracheal and bronchial membranes, and also of the lungs and pleura, are now saved that were formerly lost during the rage for the laxative and debilitating system.

There is also in many cases of the mal-administration of physic a degree of unfairness to the veterinary surgeon which I could never reconcile to my idea of right and wrong, in the course pursued by those who have brought the evil upon themselves by the non-employment of the professional man. The physic, in the first place, is most commonly procured from the druggist; but did you ever hear of any one who, when he found the danger immediate and pressing, allowed the responsibility to rest, where it ought to have rested, with the maker and administrator of the medicine? No! the veterinary surgeon is then applied to; and, if we save the animal under these circumstances—as all in long-continued and extensive practice have done many times—it is considered a matter simply in the ordinary course of business, and in scores of instances the same party is resorted to for the next dose required. If we fail, the onus is thrown upon us; and hundreds often are acquainted with the simple fact, that the animal died while under our care that are never made acquainted with the truth that he had been poisoned previously to our attendance. I sincerely hope that all professional readers of The Veterinarian will join me in endeavouring to restore these almost lost though valuable portions of our practice and means of subsistence.

I recollect, in one of the numbers of The Veterinarian some time since, that an application was made to you respecting the right of veterinary surgeons to be paid for attendances, and you requested that some of the older members of the profession would favour you with their views on the subject. I feel surprised that no one has yet done so. I have never since that application until now been in correspondence with The Veterinarian or I would have done it.

I take it for granted, that the applicant meant attendances in the immediate neighbourhood of his residence. I never heard of any one disputing the right of a man being paid for what are commonly called journies, that is, where the distance is something considerable. I have always charged for town attendance,

and I know it is the practice with every veterinary surgeon in this neighbourhood, and I will endeavour to justify the measure.

Every one who employs a professional man ought to know that he must pay for skill. Now, as no man could be supposed to put that down as an item in his account, he must charge it in some other form; and I consider attendances the least objectionable mode of doing so. Under this system, it is not necessary to give an undue quantity of medicine, and the employer has a guarantee that this will not be the case; and, on the other hand, this circumstance has a marvellous effect in reconciling them to the number of visits paid.

There is a degree of unreasonableness about some men that would give a professional man no respite or rest if they got all our labour at the same amount; and there is no fairness in it. It matters not in the least to these characters what our own opinion may be as to the necessity for visiting our patients under some circumstances: nothing less than our whole time would satisfy them; and I sincerely recommend all young vets. to commence practice on this principle, and they will find it a great mean of allaying irritability in their employer.

THE VETERINARY ART IN INDIA.

By J. Grellier, *Esq. M.R.C.S.*

[Continued from page 268.]

PURGATIVES.

Another mode of the operation of medicine on the horse is by purgatives, the principal ingredients for which are aloes and calomel. The operation of purgatives in the horse, I imagine, commences in the intestines, as the stomach is little liable to be affected. When arrived in the duodenum, it stimulates the mouth of the bile duct, increases the discharge, and removes any mucous accumulation that may obstruct the orifice. The innumerable small mouths of the lacteals are also stimulated, by which obstructions are frequently removed, which operation may be expected to have taken place in those cases in which the animal is previously low and reduced, but regains his condition after the use of physic. In this country the animal is very subject to have these vessels obstructed by sand and small gravel

accumulating from his eating foul grass. The secretion of chyle, which nourishes the blood, being thus obstructed, the animal will fall away, and, his blood becoming poor, blotches, sores, and baldness very much resembling the mange, frequently succeed. It is also possible that the accumulation of dirt, by obstructing the biliary duct, may sometimes be a remote cause of ulcered liver; first producing the yellows or jaundice, and ultimately scirrhus.

Thus we find the benefit arising from purgatives must be from the following effects, either separately or combined:—

First, by increasing the action of the bile ducts and irritating the orifice, by which more bile is discharged and obstructions removed.

Secondly, by irritating the mouths of the lacteals, causing a temporary reversion of their functions; for they now discharge their contents instead of absorbing them, by which the blood is deprived of a considerable quantity of chyle or nourishment, which is a desirable effect when the habit requires to be reduced. This discharge will also soften any accumulated fæces, which might otherwise do injury by obstructing the intestines.

The third and last is a general stimulus produced through the whole length of the intestines, which causes them to throw off the over-abundant mucus that frequently obstructs the mouths of the lacteals. The worm-like or peristaltic motion of the intestines is also much increased, by which they discharge a great part of their contents.

This form of medicine I believe to be of more general use in hot climates than in cold. Extensive doses are used in this country without much reducing the animal; while in England a violent dose is generally attended with tedious ill effects. The liver, in this country, is as much subject to be diseased in the horse as amongst the natives; and more horses are destroyed in consequence of ulcerated livers than is generally suspected.

A military gentleman in the Honourable Company's service, very much in the habit of keeping and paying great attention to horses, informed me he had four horses opened which died of ulcerated livers in the space of two years; and, from my own observations, I am convinced that it is a very common and fatal disease. In this case, an early and more general use of mercurial purgatives might, probably, sometimes prevent it, which is the only mode that can be recommended as likely to be beneficial; for I imagine it may be with ease prevented, although the cure is impossible.

MASOLS.

The word Masol implies medicine; but custom has confined it to cordials, a class of medicine much required in this climate. The most proper times for administering them are during wet and cold weather, after or during long-continued and severe exercise, as campaigning and night marches, in which last they are particularly serviceable, and ought to be given to every horse after or during such service, and which, I am convinced, would frequently be the means of saving them.

During one of these marches, two horses died in consequence of exhaustion, which, from my observations on the operation of medicine in this country, would have been saved had timely and diffusible cordials been administered. We had, one morning, marched twelve or fourteen miles. After we arrived at our ground, we received an order to be on our horses at four in the afternoon, and marched till seven o'clock next morning, over a very rough country, the horses having no kind of support during that time. One of the best horses in the 6th Native Cavalry was exhausted about three miles before we came to our place of destination, and his rider with difficulty led him the remaining distance, when the animal was seized with strong general convulsions, and died in a few minutes. If a powerful diffusible cordial had been administered when the horse first appeared exhausted, there is scarcely a doubt that the animal would almost instantly have recovered. One of the gun-horses of the 25th Dragoons died in a very similar manner on the same march, and might, no doubt, have been saved by the above remedy, which, unfortunately, could not be procured.

I think, to prevent such losses, every farrier, salistry, or quartermaster of a troop, previous to these forced marches, should be supplied with a pint bottle of turpentine, and as many cordial bolusses as there are horses, which cordials should be given when they have performed about two-thirds of their march; and if any horse is affected, as in the above cases, about a claret-glass of turpentine should be mixed with an equal quantity of water, and poured down his throat by means of a horn. Friction of the extremities and warm clothing would also assist. This plan could be pursued without any inconvenience, and would frequently be the means of preserving a valuable animal.

Cordial bolusses should be in the possession of every person in the habit of keeping a horse, as most of those diseases which prove so rapidly fatal proceed from exhaustion, and can be relieved only by immediately administering very diffusible cordials. What I mean by cordials, are medicines supposed to have the same effects as masols, and which I recommend as their sub-

stitute, being more convenient in their form, more extensive and powerful in their operation, and affording a more accurate knowledge of the quantity given.

No. 1.—*As a common Masol.*

Take Opium and Venice turpentine, of each four ounces;
Oil of aniseed or mint, one ounce.

Mix them into a mass, and divide into twelve bolusses, one of which may be given every other day.

No. 2.

Or, take of Opium, one ounce and a half;
Camphor, one ounce;
Ginger, four ounces;
Oil of mint or aniseed, one ounce.

Mix and divide as above.

No. 3.

Or, take of Opium, four ounces;
Tartar emetic one ounce and a half.

Mix water or syrup sufficient to soften to a mass, and divide as above: one to be given every night. These last are particularly useful in colds or slight feverish dispositions.

If medicine cannot be conveniently procured, and strong cordials are indispensably necessary, a pint or a bottle of good arrack may be given, with a handful of ginger and an ounce of essence of mint.

If a very diffusible stimulus is wanting, as in convulsion or gripes, give a quarter of a pint of turpentine mixed with an equal quantity of boiling water, and, if convenient, oil of aniseed or mint may be added; after which one, two, or even three of the bolusses No. 2 should be given. Friction of the extremities and spine with turpentine, and clysters of hot water or tobacco smoke, will assist.

THE INTRODUCTION OF THE TRACHEOTOMY TUBE IN CONFIRMED ROARING.

By Mr. J. T. Clapp, *Borough.*

Perhaps the following case from an old pupil will not be altogether uninteresting:—

About six months ago my attention was called to a very useful cart-mare, the property of Mrs. Cooper, Commercial Road, Lambeth.

On examination, I found her a confirmed roarer, and was informed that she had been bad about two years, and was now in such a state that the owner thought of destroying her.

I proposed the operation of tracheotomy, to which she consented. I introduced into the windpipe a tube resembling that generally used, which gave immediate relief. The tube is composed of double block-tin, and is changed every third day.

After a few days' rest, the mare resumed her work, even going long journies without any apparent inconvenience. She has been doing regular work ever since the operation, and gaining flesh as fast as she had previously lost it.

A CASE OF INTRO-SUSCEPTION OF THE ILEUM.

By Mr. J. Dunsford, *London.*

December 10*th*, 1840.—A bay carriage-horse, aged, was attacked with slight catarrhal fever, sore throat, and cough, apparently unattended by any thing peculiarly dangerous. Laxative and fever medicines were given.

11*th*.—The horse appears to be doing well—continue fever medicine. About one o'clock at noon the animal suddenly hung back, broke his halter, and manifested the most acute pain. He was immediately sent to our stables, and the most active antiphlogistic treatment adopted without the least alleviation of pain. He lay down, rolled on his back, and continued in this position for five or six minutes. Immediately afterwards he would sit on his haunches, repeatedly gazing first on one side and then on the other with an inexpressible look of intense agony. A profuse perspiration broke out several times. The fæces were at first voided in small quantities, and repeated two or three times. The pulse was not at all affected in quickness or character for two or three hours, and then it suddenly became more rapid and indistinct. The respiration was less disturbed than might be expected from such intense agony.

These symptoms continued during eight hours, with little or no variation, and there were evident signs of approaching dissolution. Two hours afterwards death ensued.

Post-mortem Examination.—On opening the abdomen, the peritoneal coat of the large and small intestines exhibited considerable inflammation, but more especially the cæcum and ileum,

which were in an active state of decomposition. The ileum had protruded about eighteen inches into the cæcum. The contents of the intestines were soft. All the other viscera were free from disease.

ADHESION OF THE CÆCUM TO THE ABDOMEN.

By the same.

Feb. 14th, 1842.—A BAY mare, half bred, and in low condition, fell lame from a strain of the coffin-joint. Proper remedies were used, and on the 15th a mild purgative was administered.

All went on well until the 23d, when the mare that had appeared to be sound was attacked with colic. The symptoms were not of a very acute character. The pulse was not at all affected; but the mucous membranes had a slight yellowish brown tint. An injection was thrown up, which was returned with a little slimy matter, but no fæces.

Knowing that our patient had, before her lameness, been worked very hard, and was now doing nothing, but having a tolerable supply of food with the view of getting her condition improved, and a repugnance to mash, we were led to conclude that she had an obstruction of the intestinal canal from derangement of the digestive organs. Cathartics, combined with antispasmodics, were given, and repeated injections thrown up without the least appearance of fæces. The rectum was examined, and found empty. The disease continued with little variation, such as her remaining at comparative ease for fifteen or twenty minutes, and then walking round the box, and repeatedly lying down. Frequent efforts to dung were made, but nothing passed. This continued until the morning of the 26th, when she died.

Post-mortem Examination.—On our first making an incision through the parietes of the abdomen, we observed with some surprise the peculiar attachment of the cæcum to the peritoneum of the abdomen. This adhesion commenced at the apex of the cæcum, uniting its posterior border through an extent of twelve or fourteen inches, thus making it a fixture. The nature of this adhesion, and the appearances it presented, shewed that at least part of it had existed for some considerable time. The cæcum was less inflamed than might have been expected; the whole of the intestines were slightly coloured, and their contents fluid. The liver was a little softened.

Remarks.—This animal was very high couraged, and, prior to her last owner, had been in the hands of a butcher, who, when he sold her (to use his own words), said "he had used her abominably," no doubt by urging her far and fast, and beyond her natural powers, and, possibly, giving her many a violent *kick in the belly*. Might not the increased peristaltic action of the intestines from the purge be the exciting cause of the disease that followed, and the diminished capability of supporting that action from the attachment of the cæcum? Did this produce chronic inflammation, and, therefore, increase the adhesion? The purge acted well, and without any symptoms of pain; but the quantity of food given after the physic was too much, and the animal taking no exercise, may not this, probably, be the cause of the unusual termination of the case?

A SINGULAR CASE OF FISTULA IN ANO.

By Mr. R. Rawlings, *Bristol.*

Months, nay even years, have elapsed since I promised myself the pleasure of addressing you, and adding my mite of practical experience to the scrap which I sent to you on a former occasion. The result of close application and minute observation of the facts attendant on various cases of glanders, and others, it is my intention to send you, as my professional engagements will allow me.

I commence with a very rare case of fistula in ano. I have never seen but one other case in thirty years' practice, and that was cured by a solution of the lunar caustic and the chloride of lime. The following is a short account of it.

About the middle of October, 1841, I was requested to visit a bay carriage-horse, belonging to a dealer in Thomas Street, in this city. It was said that he had a profuse offensive discharge issuing from a wound near the termination of the rectum. I saw him late in the evening, and pronounced it to be a fistulous ulcer, and directed that the horse should be brought to my yard in the morning.

On probing the wound, I found a sinus at least fourteen inches in length, running in the direction of the rectum.

I decided on filling it with a solution of lunar caustic, with a pledget of tow at the orifice to prevent its escape, directing that the horse should be brought again on the third day. I then repeated the injection, which seemed so produce less pain than

the first dressing. The fœtor was not so considerable—the discharge less and more healthy.

I saw him again a few days afterwards, and had much difficulty in getting near the part affected, not having thrown him. After many efforts, however, I succeeded, and drew with a pair of forceps out of the sinus a cobweb-like substance near the length of the fistula, which was protruding from the orifice.

I then injected a solution of chloride of lime, and repeated it a few times, and at about the same intervals. The discharge had now become healthy pus, and had lost its fœtor. The wound healed, the horse was sold and put to work, and has been at work ever since.

I saw him a few days ago: there is no discharge from the part, nor has there been since I left off dressing him; and in all other respects the horse is in good health.

THE NARCOTIC AND SEDATIVE EFFECTS OF OPIUM.

By Mr. J. YOUNGHUSBAND, *V.S., Greystoke.*

A GREY horse, four years old, the property of Mr. G. W., was attacked, on the 8th of April, with what was supposed to be flatulent colic, but, the case not being considered desperate, it was treated by the owner. The symptoms at length becoming materially worse, I was requested to attend him as soon as possible. When I arrived, I found him with all the symptoms of enteritis in a sub-acute form; his pulse small and weak, beating upwards of 100 in a minute, and the bowels being constipated. As he had already been bled by the owner, and the state of the pulse (according to my opinion) not warranting any further depletion, I forbore to abstract any more blood at that time, but immediately prepared an anodyne mixture consisting of tinct. opii., spt. ether nit., and a solution of aloes; I also threw up an injection of warm water in which a little salt was dissolved.

This was immediately returned without being in the least tinged with any fæcal matter. Waiting awhile to see whether there would be any effects from the draught, and the horse perspiring very much in the intervals of ease, which were short, I had him well rubbed, and dry clothing put on.

An hour having elapsed and the pain not abating, and at the same time the horse appearing to get weaker, I determined to abstract more blood; but after having withdrawn about six pounds, the animal appeared inclined to faint. I then pinned up the orifice, gave a draught of tinct. opii. and spt. nit. without the aloes, and,

as his legs were getting cold, ordered them to be well hand-rubbed by two men.

By this time the narcotic effects of the medicine were very apparent, for as he lay with his head down and his neck stretched out, and apparently much inclined to sleep, his breathing became more tranquil, his coat dry, and in the course of a short time he got upon his legs and seemed relieved.

We now thought that we had gained a favourable point, and he was left for a short time; but on our return we found him as ill as or worse than before, while the action of the heart might be plainly seen from the door.

On rousing him he immediately erected himself upon his haunches, propping himself up with his fore feet, and remaining in that position a considerable period. This he repeated several times.

I now told the owner that I had not the least hope of his recovery, and that I suspected either a strangulation of the intestine or a rupture of the diaphragm. The injection was repeated, which appeared to give him much pain, and, as he passed no excrement, I desisted from the use of more injections.

Being somewhat perplexed as to what further treatment I should pursue, I, as a last resource, resolved upon giving a large dose of liquor opii sedativus: I also ordered his belly to be well fomented with warm water, and left him to visit another patient, saying that I would return as soon as possible.

Being uneasy as to the result, I was not long in arriving at my post again, when I found my patient completely narcotic, and, to an inexperienced eye, death was near at hand. A sort of convulsive motion kept the eye in a continual movement. When his head was held up, it fell to the ground as if he was dead. The legs when moved were the same; in fact, he had every appearance of being irrecoverably lost, so far as unconsciousness went.

Still the breathing was quite tranquil, the pulse more regular, and the heart's action perfectly subdued. From these symptoms I began to form a favourable prognosis, and at a slight noise I made against the wall he made a sudden start, rose up, and stood firm and immoveable: after this he gradually improved, although he was very weak.

He had now been ill twenty-four hours, and no fæcal evacuation of dung had taken place.

Ap. 9th.—Improving, but no motion from the bowels, although he passed his urine freely. Ordered injections of warm water to be given frequently.

10th.—Voids his dung freely, and needs no more of my assistance.

I send you this account, not as containing any thing absolutely new, but to shew that a horse may exhibit strong symptoms of strangulation and rupture, and recover.

Another circumstance makes a strong impression on my mind. It has been remarked that opium has no direct influence upon the nervous system of the horse. I think, from the foregoing statement, that when given in large doses it is a most valuable narcotic and sedative, and am proud to add my testimony to that of others who have spoken of its value. I have seen the same effect produced upon cattle several times.

[We regard this as a very interesting and valuable case, and thank Mr. Younghusband for it.]

REMARKS ON THE PRESENT STATE OF VETERINARY AFFAIRS.

By Mr. E. C. Bull, *Huntingdon.*

Sirs,—It appears from former numbers of your Journal, and especially from that of the present month, that a certain party of veterinary surgeons have been taking very active and strenuous measures to secure certain advantages to themselves, which I deem to be both unjust in their design, and truly ridiculous in their character. I now refer to the Memorial which they, some months since, presented to the Governors of the Veterinary College, and to the petition to her Gracious Majesty, with the address to the Marquis of Normanby, which they, or rather their Committee, subsequently prepared and transmitted, in order to insure those advantages. Their seeking to remove certain imperfections in the mere *local* regulations of the College, or to obtain the addition of a limited number of veterinary surgeons in the committee appointed to examine the qualifications of the graduates before they obtained their diploma from that institution, were objects to which no rational objections could, I apprehend, be made; but to farther aim, in the projection and execution of their plans, at the obtainment of an act of parliament to prohibit the appellation of "Veterinary Surgeon," and the practice also to any person in the profession who has not received a ticket either from the Edinburgh or the St. Pancras School, is certainly the most unblushing and disgusting attempt to violate the rights and liberties of a very numerous and respectable portion of society that has ever before been known in the history of any civilized community. "Fair play is a jewel," as the old adage

has it; but this, Sirs, is a breach of good manners and good sense altogether unparalleled. If it could be proved to the satisfaction of the public, that there are no non-diplomatists (as they are called), or, at most, but very few in the profession, competent to engage in veterinary practice with credit to themselves, or with the high opinion and general approval of their employers, then there might be some appearance of plausibility in the avowed ends of the Memorialists: but this is not the case. To say that it is, is nothing less than a flagrant aspersion on the respectability, education, and professional talents of hundreds of practitioners in different parts of the country. It is a fact, very easily ascertained, that in almost every county or district, agricultural or commercial, the non-diplomatists take the lead and get the most business; and why? I answer, because they know the most, they cure their patients much quicker, and are far better acquainted with the pathology of the horse and cattle than the College graduate is. As for the latter being able to gabble or prattle over a few cant technicalities in anatomy and physiology, that is but a trumpery recommendation for a veterinary surgeon. Why, Sirs, a sharp lass about 14 or 15 years old, in any common placed female academy, might be made to do that in six months. The fact, Sirs, is this, any of our employers of but ordinary discernment is disgusted with such doggrel nonsense. All that they require of us is a good common sense rationale of the disease, and a plain, straightforward, and successful plan of removing it. All the rest with them is but leather and prunella. When I assert that the College graduates are not any thing near on a par with the old practitioner, I would not be understood to include every St. Pancras veterinary surgeon. No! I allow that some of them are sound practical men, and understand their profession extremely well; but no thanks are due to that "stupid Veterinary College," as Mr. Bracy Clark terms it (for *this* quotation, see November number of THE VETERINARIAN for 1838, page 593). If their veterinary knowledge is superior to their other graduated brethren in the trade, they owe it to the instructions of their parents, or their masters, who were members of the "old school;" who were men of great abilities, extensive practice, and considerable experience, although their name is now despised by the modernized smatterers who have succeeded them. I know at this present time of several very respectable veterinary establishments, conducted by *un*-certificated practitioners, where anatomy is minutely taught, instructions in physiology extensively given, and the pathology of all domesticated animals freely and scientifically imparted to students committed to their care—a proof this (I presume) that diplomas are not always swallowed down by John Bull without any reserve. As for the prohibition

sought for by those Memorialists being a *public benefit*, who but a *dolt* would dream of such a result? We all know, or ought to know, that monopoly is a curse to any community; and no patriotic spirited person would, for one moment, suppose that the public can or will be benefitted by a select few being able (by virtue of a prohibitory act of parliament) to seize, with avaricious grasp, the just desert of others, and making their employers pay by high charges (a natural consequence of such monopoly) for their gentility, professional capability, and other prodigious imaginary qualifications. Not only so, but many a superior genius in the lower grades of society would be forced to blush unseen, and waste his fragrance on the desert air: and why? because, forsooth, the profession (by law established) is confined to a pitiful junto of medical or semi-medical loggerheads. You perceive then, Sirs, I presume, that it is nothing less than insufferable vanity, in the partisans of this ludicrous scheme of veterinary monopoly, to flatter themselves into the notion that they are the only orbs of light from which all the respectability, talent, and education of the profession, must necessarily flow. Only look about you, Sirs—extensively inquire, yea, make statistic returns, if you please, of all the practice, numbers of employers, &c. &c., of veterinary surgeons unconnected with the College, and compare them with the same in those who have been taught in that seminary, and you will find to your astonishment that the latter (speaking generally of course) only resemble the Lilliputian pigmy strutting on the side of the Patagonian giant of eight feet six or nine. But to be grave, Sirs: you are aware that you say in your excellent motto, "ne quid falsi dicere audeat, ne quid veri non audeat;" so that, to act up to this motto, we may speak the truth if we may not tell a lie; and what I am stating is the truth, and nothing but the truth. It is, therefore, false and slanderous to assert, that veterinary surgeons of the old school are the subjects of empirical ignorance and obstinacy. So far from this, they are men who can address a court of justice if subpœnaed, and give as correct and judicious an evidence on any case in their profession as the Messrs. Mayer and other disciples of the St. Pancras school can; in short, they can conduct their business as scientifically and successfully as any of them can, although not introduced to the notice of their employers with the fascinating but people-gulling diploma of the College vet. You may be disposed to say, perhaps, while reading over these caustic strictures, See how the gall'd jade winces; but no, Sirs; I am not the gall'd jade, for I happen to sit uninjured from any rival influence exerted from that quarter. Nor would I be understood to have any personal bad feeling against mere individuals—far from it: it is

measures, and not men, that I oppose: it is the ridiculous supposition that veterinary knowledge is not to be obtained out of a college that I would level the artillery of my objections against. On this part of my subject I could say much more, but I, for the present, forbear; and would farther observe that, as to the preparatory, classical, and subsequently veterinary education, necessary to be possessed before commencing business, we all know that the disciples of the old school have as great a share of these qualifications as ever those of the new schools have, and that, too, in consequence of the general diffusion of education and knowledge now spreading among all classes of society. Of course, there may be, and, doubtless, are, a few exceptions to this general rule; but, then, we are not so weak as to suppose that an ignorant clown, or any other pretender, however great his impudence, and however great the ignorance of his employers in some solitary cases, can ever successfully compete with a clever, intelligent, and practical man of a more respectable character: to suppose he can, is, at least, to reflect on the good sense and increasing knowledge of general society. I will now conclude, Sirs, by simply stating that I regularly take your Journal, and do give you credit for the general impartiality you evince in the insertion of articles from your various correspondents, and, therefore, hope you will oblige me by inserting this communication in your next Number.

I am, Sirs,
Your's respectfully.

We are so far from entertaining any objection to the insertion of Mr. Bull's letter, that, on the principle of *audi alteram partem*, and on the score of our own feelings prompting us to act so, we should conceive it not only a piece of injustice to him, but irreconcileable with our own principles, to refuse it a place in our Journal. We, therefore, give the communication publicity; but, in doing so, Mr. B. must permit us to tell him, we wish he had a little more regard to common courtesy of expression. Mr. B. must know, as well as ourselves, that neither acerbity of expression nor metaphor constitutes argument; and were it not that we would not be guilty even of seeming injustice or partiality, we tell Mr. B. frankly that, on account of having used such a mode of expression—bordering, indeed, on personality—we would have rejected his letter altogether.

As it is, we feel confident no member of our profession will have it in his power to say,

Pudet hæc opprobria nobis,
Et dici potuisse, et non potuisse refelli.

ON EPIDEMIC DISEASES.

By Mr. YOUATT.

[Continued from page 347.]

BEFORE we enter into a consideration of the recent epidemics that have destroyed so many of our cattle, it will be useful once more to refer to the existence and character of these pests in other countries, and immediately preceding their dreadful ravages among us.

A history of this has been given in our work on "Cattle;" but as that is not in the hands of all our readers, we shall repeat—with some alteration—and at considerable length, the account which was there stated.

It was in **1711** that the epidemics commenced, which, although sometimes suspending their ravages for a few years, or rather visiting new districts when they ceased to desolate others, continued to be the objects of terror until the establishment of veterinary schools.

The reign of the epidemic of **1711** seems to be clearly traced*. Some cattle merchants were importing, according to their annual custom, beasts from Dalmatia, which were in request in some parts of Italy. One of these oxen being taken ill, and straying from the herd, was abandoned by the merchants in the neighbourhood of Padua. A servant of the canon of Padua found him, and, whether with or without the knowledge of his master does not appear, took possession of him, and put him into a cow-house among others that were perfectly well. In a few days he died; but not until he had infected every beast; and so surely, that they all perished except one, in whose neck setons had been placed†. The contagious nature of the disease (for the contagiousness of true murrain cannot for a moment be doubted), finding a too powerful auxiliary in some peculiar state of the atmosphere at that time, the malady quickly spread through the whole Venetian territory.

Two Italian physicians, Rammazini and Lancisi, have left us more intelligible and consistent accounts of it than we have of any of the epidemics that speedily followed on the continent of Europe, or of those that occurred in our own country nearly half a century afterwards.

* Vid. Rammazini et Lancisi.

† Rammazini de Contagiosa Epidemia, p. 456. See also Hira on the Mortality of Horned Cattle, p. 16.

By giving a sketch of it as it appeared in Italy, there will be less occasion to dilate on the succeeding epidemics. It commenced with a shivering fit, followed by unnatural heat, extreme thirst, difficulty of breathing, and general debility. A thick mucous discharge from the nose and mouth speedily succeeded, attended by a very unpleasant smell. There were twitchings of various parts of the frame; frequent fœtid and bloody ejections; and the appetite and rumination ceased. On the fifth day there was a pustular eruption in the mouth, which covered the tongue and pharynx; and abscesses followed, and the bones beneath quickly became carious. The cattle died generally on or about the fifth or ninth day.

The hair usually came partly or entirely off. If, after the fall of the hair, the skin became firmer, or if the disease attacked the legs or thighs, and there were swellings of the joints, or about the limbs, and which almost prevented the motion of the animal, he generally recovered. Cows that gave milk often survived, but their calves uniformly perished.

On examination after death, hydatids were found in the brain and lungs; and it was said that they contained an infectious gas that could scarcely be endured. If this were the case, they were vesicles formed by the extravasated air in the process of decomposition, and not hydatids. Ulcers were found at the root of the tongue, and gangrene in the intestines. The third stomach always contained a hard, black, infectious mass, which adhered to the lining membrane, and could scarcely be separated from it.

Lancisi says, that he found no medicine certainly effectual against this complaint, but setons and the actual cautery were sometimes serviceable. Rammazini fully confirms this, and says that the cattle in which either setons, or the cautery, or natural tumours and ulcerations, had produced a copious discharge of thick purulent and fœtid matter, were the only ones that escaped*.

The pest was soon propagated over the greater part of Italy. It appeared in Milan, under even a more virulent character than it had assumed in the Venetian States; and when it reached the duchy of Ferrara, it had so fearfully acquired strength as it proceeded, that it was the prevalent opinion among the best-informed persons in the duchy, that the whole species of horned cattle would quickly become extinct. As it travelled it selected other victims—horses, deer, swine, and domestic poultry of every kind, were attacked by it.

As might be supposed, the most absurd ideas were entertained of its nature and cause. Many of the beasts that had died in the preceding year had not been buried deep enough, and clouds

* Vid. Rammazini et Lancisi in loc.

of hornets had burrowed down to them, and fed on the putrid flesh. It was confidently affirmed, that a great proportion of the cases of murrain might be traced to the empoisoned sting of these hornets. Some persons pretended to find the black stings of these winged insects in different parts of the animals*.

In 1714 it reached Piedmont, still apparently increasing in malignity. According to Fantoni, Professor of Medicine at Turin, more than seventy thousand cattle perished in that little territory†.

From Piedmont, it easily found its way into France. All the provinces of the south of France, and bordering on Germany, were devastated by it. And now its progress was rapid and murderous to a fearful degree; for, before the end of the year, it had reached Brabant and Holland, in the latter of which at least two hundred thousand cattle perished: and it had crossed the channel to England, where it was as destructive as on the continent; but of its history and specific character in Britain, there —strangely—is not any authentic record.

The disease afterwards began to exhibit new symptoms. If it first attacked the membrane of the nose, it sometimes confined its virulence to that and the neighbouring parts, and the malady assumed the precise form of malignant (acute) glanders. The septum was ulcerated through and through, and the horse and the ox died in consequence of the local mischief there done, and the constitutional irritation consequent upon it, without determination of the malignant principle to any other part.

If the first attack was on the alimentary canal, there the fury of the disease was expended, and the animal was destroyed by dysentery. If the membrane of the mouth was affected, it was soon covered by tumours of greater or less size, and many of them running on to ulceration.

The extensive ravages of murrain seemed now for awhile to cease; but it frequently appeared in certain districts, confining itself to them, and being there sufficiently murderous, and exciting the too-well-grounded fear that it would break out again, clothed in all its terrors.

In 1731, the epidemic of 1682 seemed to return. Glossanthrax, or blain, of a malignant character was prevalent in many of the provinces of France, and very fatal there.

The vesicle formed most rapidly, and, if neglected, suffocated the animal in less than twenty-four hours: or, if the vesicle broke, it was succeeded by a chancrous ulcer, far more corroding than chancres generally are, and which, destroying the tongue and posterior part of the mouth, produced the death of the ani-

* Hurtrel D'Arboval (Typhus). † Ibid.

mal. The incomprehensible story was again revived—there were no veterinary surgeons yet—that the beast continued to eat and to drink, and to appear well, until the tongue fell piecemeal from the mouth.

The cause of the disease was supposed to be the same as in 1682, and it fared even worse with the horse than it did with the ox.

In 1743 and 1744 it appeared again, with increased fury in the north of France, and great part of Germany.

In 1745, it laid Holland waste a second time. More than 200,000 cattle now perished.

In the same year, it again found its way to the coast of Britain. It seems to have been clearly brought to us from Holland, although there are two versions of the story.

Dr. Mortimer says that it was imported by means of two white calves which a farmer at Poplar sent for, in order to cross his own breed; and that it spread into Berkshire by means of two cows that were brought out of Essex. The other account is, that one of our tanners bought a parcel of distempered hides in Zealand, which were forbidden to be sold there, and should have been buried, and so transplanted this dreadful disease among us. "Thus by one man's unlawful gain," says Dr. Layard, "if by this way it was conveyed, the ruin of many graziers and farmers was effected." It is certain, however, that the pest first appeared in the immediate neighbourhood of London, and on the Essex side of the river, and that thence it gradually spread through Essex and Hertfordshire, and the whole of the kingdom.

For more than twelve years it continued to lay waste the country. The number of beasts that were actually destroyed by it was not, and perhaps could not be, ascertained; but in the third year of the plague, when the government had so seriously taken up the matter as to order that every beast that exhibited the slightest mark of infection should be destroyed, a remuneration being made to the owner, no fewer that 80,000 cattle were slaughtered, besides those which died of the disease, and which formed, according to the narration of one of the commissioners, nearly double that number. In the fourth year of the plague they were destroyed at the rate of 7000 per month, until, from the numerous impositions that were practised, a portion of the preventive regulations was suspended.

In the year 1747, more than 40,000 cattle died in Nottinghamshire and Leicestershire, and in Cheshire 30,000 died in about half a year.

The symptoms of the disease are best described by Drs. Brocklesby and Hird, who, with many other medical men, exerted themselves in the most praiseworthy manner, to ascertain the

nature of the pest and the method of cure, or the prevention, at least, of this dreadful malady. Dr. Layard's work is the most laboured performance; but he drew too much from other authors, and gives us far too little of the result of his own observations.

The disease generally commenced with a dry, short, husky cough; but as cattle are very subject to hoose, and particularly in the spring and fall, this, although it continued without any other symptoms for eight or ten days, was generally overlooked. At length the coat began to appear unhealthy — the eyes were heavy—rumination ceased—the animal refused all food and drink—the milk began to decrease—it acquired an unpleasant taste—it became yellow, and soon afterwards dried up.

These were precursor symptoms. The real and serious attack of the disease was a shivering fit, succeeded by an intense heat and uncertain remissions. The eyes became more heavy and dejected, and the conjunctiva inflamed. The cough was more violent, and respiration so difficult, that the animals seemed to struggle and pant for breath.

A swelling became visible externally about the glands of the throat, which, in some cases, were so large as to threaten immediate suffocation.

The tongue and internal part of the mouth were hot and slimy —the head hung down—the ears drooped—there was an unusual listlessness and unwillingness to stir—a seeking of solitude—a separation from the rest of the herd—and an evident dislike of being, in the slightest degree, disturbed.

The bowels were at first costive, but looseness succeeded in less than forty-eight hours after the shivering fit. The excrement was at first green, watery, and intolerably fœtid; but it afterwards altered to a viscid slimy matter. The purging continued, in fatal cases, through the whole of the disease; but in those that recovered, it began to abate about the seventh day. The existence of this looseness for awhile was necessary to the favourable termination of the disease; for all in whom it did not appear within a few days after the shivering fit, died.

A considerable fœtid discharge proceeded in every case from the nostrils, and, in some instances, from the eyes and mouth. It was thinner, and of a more serous nature in the animals which died of the distemper; but more consistent and better digested in those that recovered.

If the disease terminated fortunately, the inner surface of the mouth and the glands of the throat continued to have a healthy inflammatory blush, without any tendency to gangrene or mortification. Internal ulceration was generally regarded as a most unfavourable symptom; but if the external swellings, whether of

a greater or less size, which usually appeared about the third or fourth day, broke, and discharged a considerable quantity of stinking purulent matter, the beast usually did well, although the ulcers occasionally spread to a most fearful degree, and were always very difficult to heal. Most of the beasts had a universal emphysema or crackling under the skin, and this, in some, proceeded to a very strange and curious extent.

The continuance of the disease was very uncertain. Some died almost suddenly: in others, inflammation of the brain seemed to come rapidly on, and the cattle became so furious and dangerous, that it was necessary to destroy them. Most died on the sixth or seventh day, and very few lived on to the eleventh. The approach of death was usually indicated by the mouth becoming cold, the breath fœtid and cadaverous, the eyes sunk in their orbits, the skin tense and clinging to the bones, and especially the horns and teats becoming intensely cold.

The recovery was generally very rapid. On one day a beast appeared to be in extreme distress, with every symptom urgent, and in less than four-and-twenty hours rumination had returned, the milk flowed freely and of its natural colour, and she turned to the crib with some degree of appetite.

On dissection, the paunch was always found very much distended with food. In the second stomach there was nothing unusual; but on the third being cut into, there generally flowed from it a great quantity of thin greenish fluid, of a most offensive smell. The fourth stomach exhibited marks of inflammation sometimes running on to gangrene. The intestines had patches of inflammation or gangrene; but the liver, the spleen, and the kidneys were scarcely affected. The lungs exhibited traces of the intensest inflammation; they were usually congested with blood, while purulent matter ran from every part of the bronchi.

The disease was evidently epidemic. It would cease, in a great degree, towards the approach of summer. During one or two summers, in the twelve years that it raged, it seemed to have altogether disappeared; but at the return of winter it broke out afresh, sometimes in districts the cattle of which it had previously thinned; at other times, in places which had hitherto escaped its fury, and very distant from those in which it had seemed gradually to die away. It prevailed most generally and was most fatal towards the latter part of the winter. February, and sometimes March, were destructive months. There was also a strange caprice about it. It would select its victims here and there. It would carry off half the cattle in every dairy round a certain farm, and not touch a single beast there; but, six months afterwards, it would return, and pounce upon this privileged spot,

and leave not one animal alive. There were other instances in which, although it attacked cattle on a certain farm, it readily yielded to the power of medicine, or to that of nature, and not one in a dozen was lost; while on a contiguous farm—the soil, the produce, and the management being apparently the same—not one in a dozen was saved. Its virulence evidently depended on some mysterious atmospheric agency.

Was it contagious as well as epidemic? This seems to have been taken for granted by every one who had opportunity of observing the disease; and on this were founded the orders in council for the non-removal of infected beasts, the slaughter of them, and their burial within three hours after death.

That it was communicable by immediate contact there can be little doubt. The history of its introduction into Padua, and its propagation through the neighbouring territory, were sufficient proofs of this. That it might be communicated in a more indirect way, by the contact of the person or thing that had been near or had touched the deceased animal, was probable enough, and there were said to have been numerous instances of it; but, as is natural in these cases, the public were a great deal more frightened about the matter than the real danger would justify.

The disease had far more of an epidemic than of a contagious character about it; and all that was really necessary, or could be of avail in those cases, was to remove the infected animal from all possible contact with others as soon as possible; to destroy all the litter and forage which was left behind; to burn the less valuable harness or utensils, to scour the place well with chloride of lime, and to forbid those who attended on the sick beasts from having any thing to do with the healthy ones.

Contagion would now be limited in virulence and extent; and, in many cases, it would be altogether destroyed by the plentiful use of the chloride of lime. It was also very proper to have the carcasses buried as soon as possible. After such diseases, the body runs to decomposition very rapidly, and the neighbourhood of a mass of putrid matter cannot, at any time, be conducive to health.

As to the using for human food the flesh of an animal that had died of such a disease, common precaution would forbid it. The law which prohibits the flesh of an animal that had perished by any disease from being eaten is a very proper one; for it is impossible to say, however strong may be the anti-septic agency of the stomach, or its power of converting a semi-putrid matter into wholesome nutriment, that injurious effects might not be produced in constitutions debilitated, or predisposed to disease.

There were stories of pigs, and dogs, and ducks having pe-

rished in consequence of eating the flesh of an animal that had died of murrain; but, on the other hand, Dr. Brocklesby relates a story of a countryman who had often solicited a butcher to give him a beef-steak. At length the butcher, tired with the fellow's importunities, determined to satisfy his desire, and presented him with a large slice of meat from a beast that had died of murrain. The clown was thankful enough, and soon afterwards returned with fresh solicitations for such another steak. After three weeks had elapsed, the man was pointed out to Dr. Brocklesby, and was apparently in perfect health; but he certainly did not know what kind of meat he had eaten.

Inoculation for this disease was tried by some celebrated agriculturists, and particularly by Sir William St. Quentin, of Serampton, in Yorkshire. Eight calves were inoculated; seven of which had the distemper and recovered, and were afterwards turned into a herd of infected cattle without being diseased a second time.

He likewise inoculated an old ox. It caught the distemper from the inoculation, and recovered. This beast was afterwards turned into a herd of infected cattle, and continued in the pasture with them until they were all dead: he was then put with another herd of infected cattle, but still he escaped.

Dr. Layard produces some singular testimonies to this effect. He speaks of one farmer who had eight cows that survived the distemper in 1746, and which, when the disease was again among his stock in 1749, 1755, and 1756, were in the midst of the sick cattle, lay with them in the barns, ate of the same fodder, and even of that which the distempered beasts had left and slavered upon, drank after them, and constantly received their breath and steam without being in the least affected. The farmers were so assured of this, that they were always ready to give an advanced price for those who recovered.

By Order of Council, boards of health were established in various parts of the kingdom. They had instructions to prevent the sale or removal of cattle from one district to another; to cut off all communication between the healthy and infected parts of the country; to kill every beast that they deemed to be infected, and to see that every beast that died was immediately buried. They were likewise charged with the institution of certain means of cure, and more particularly of prevention.

They were composed of some of the magistrates of the district, and of physicians who very handsomely proffered their gratuitous services; and they laboured twelve years, and with so little avail, that at length, as it were by a simultaneous act, they dissolved their meeting. They could discover no preventive—no cure for

the disease, and the restrictions with regard to the sale or removal of cattle, and communication between different districts, were so frequently evaded, that it was either impossible or impolitic to levy the penalties.

There was so much caprice about the disease, and beasts so often recovered after all hope had seemed to have passed away, that the farmers began to resist the slaughtering of their cattle, or concealed them when they were sick; and, on the other hand, in ridicule of the competence of these judges, they brought all their old and worn-out animals, or those that were ill of totally different complaints, and had them destroyed, and claimed the remuneration which the government allowed for those alone that were infected with murrain.

Of the propriety, however, of this bonus for the destruction of infected cattle there cannot be a doubt; for there were numerous instances in which those who began to kill the sick as soon as the distemper appeared among their cattle lost very few; but others, who would kill none until their folly made them wiser, did not save more than one out of ten.

As to the more strictly medical part of the affair, there were such contradictory opinions among these scientific men—some maintaining that it was an inflammatory fever, and others that it was a bilious fever, and each defending his theory with so much warmth and obstinacy, that the simple farmer was first puzzled and then disgusted. There were also such different modes of treatment recommended,—drugs both for prevention and cure, which either had never been used for the diseases of cattle, or had been proved, even by the beast-leeches of the day, to be perfectly inert in the ruminant, all evidently founded on conjecture and hypothesis, and borrowing nothing from experience, that, in the language of Dr. Davies, "the graziers found more recover when left to themselves than when tampered with, and Nature was a better director than an officious pretender."

Dr. Layard gives a very curious account of the matter:—"Disappointed in their hopes from regular practitioners of physic, they (the farmers) despised all regular methods, and ran headlong after such remedies as were at once to remove every complaint, and were honoured by the authors with the ever-recommending title of Infallibles. Nor were these remedies efficacious, for tar-water, Bateman's drops, Godfrey's cordial, worm powders, and many other things were all given, and all to no purpose; until, bewildered in a labyrinth of opinions, and distracted through their absurd credulity, they became as superstitious in this case, with regard to their beasts, as fatalists are with regard to them-

selves. They would only bleed and give milk-pottage, because they believed these things innocent; and when by loss of blood or scouring the cattle died, they said that they left the whole to Providence. If they were cured, they said it was well; if they died, they said no one knew any thing of the matter, nor could any thing have done them good."

It is the character of these epidemics gradually to wear themselves out. They are frequent and malignant, and fatal enough at first; but in process of time they become more rare and more tractable, and at length they disappear, or they select some other country, near or remote, as the scene of devastation. About the year 1758, this epidemic was evidently declining throughout the whole of the kingdom; but it could not be said to have quite left the British Islands for several years afterwards.

In 1757 it again appeared in France, assuming a somewhat new character. It was compounded of inflammation of the tissue beneath the skin, shewn by the appearance of tumours on every part, associated with inflammation of the lungs. It spread from cattle to horses. The poor ass is said, for the first time, to have fallen a victim to it, and these animals perished in great numbers. The stags in the neighbouring forests did not escape; and many flocks of sheep, over which these epidemics had hitherto passed harmlessly, were swept away. The malady yielded to bleeding and purging in the earliest stage; but, being once established, it ran its course in spite of all medical treatment, and the measures adopted usually hastened the catastrophe.

In 1758 it had spread to Finland. There it assumed another form, modified by the climate and many local causes. Some cattle were taken all at once. There was violent trembling, amounting almost to convulsion of every limb, and blood ran from the nose and bloody slime from the mouth, and the animal died in a few hours. In other cases the attack was not so violent; but after the shivering fit tumours began to form between the thighs, or on the front of the breast or beneath the jaws; and, when the jaws were affected, the patient was supposed to be most in danger. Diarrhœa usually followed. If it appeared early, it seemed to be an effort of nature to throw off the evil, and frequently a successful one; but if it came on after the second or third day, the beast had not long to live. General bleeding was supposed to be dangerous, except in the very earliest stage of the first species of the disease.

Stimulants were thought to be more useful, and particularly free and deep scarifications of the tumours and the surface of the ulcers.

From Finland the murrain passed into Russia, and was said to

be very fatal there; but we have not any satisfactory account of its progress in that country.

Half a century had now elapsed, and, with occasional remissions, and often very short ones, this malignant epidemic had prevailed, and had extended to the very extremity of Europe. The attention of every government had been anxiously directed to it. Prompted by benevolence, or urged by the hope of honour or reward, the most eminent physicians of the day had devoted their time and medical skill to the elucidation of its nature, cause, and mode of treatment; and all, comparatively, without success. It must not be said that an unfortunate result attended their interference; but the malady continued to spread, although, perhaps, it was not so untractable or murderous.

At length it became evident to the medical men who had thus fruitlessly laboured to remedy the evil, and to the agriculturist who had suffered so severely by it, that they were contending with the foe at much disadvantage, for they knew not his mode of warfare, nor the source whence he derived his power.

They had not studied—no person had then studied—the anatomy of domesticated animals, or the influence of their peculiar conformation on the discharge of their various functions, or the nature and causes of their diseases, and the effects of various medicines on cattle in sickness and in health. At length common sense suggested the propriety of the establishment of veterinary schools, and in 1761 the first European veterinary school was founded at Lyons, under the superintendence of the justly-celebrated Bourgelat.

Partly, perhaps, from natural causes, the disease beginning, as we have hinted, to wear itself out in France, but, to a considerable degree, from the diligence and skill of the professors, the ravages of the epidemic were evidently and quickly restrained; and although it could never be said to have quite disappeared, either in France or elsewhere, and is yet occasionally far too fatal, yet its victims are, comparatively speaking, few, and it is deprived of many of its terrors. The altered character and decreased devastation of every subsequent epidemic must be traced mainly to one cause—the preventive or curative measures suggested by veterinarians, and the former, perhaps, much more than the latter.

The beneficial consequences of this new study and profession were so manifest, that young men flocked to the school at Lyons, not only from every province in France, but from Switzerland, Sardinia, Austria, Prussia, and even Denmark and Sweden. A second school was established four years afterwards at Alfort, and in process of time a third at Toulouse; the last being ap-

propriated exclusively to the study of the diseases of cattle and sheep.

Other governments followed the laudable example of that of France; and with the establishment of these schools was not only connected a mitigation of many fatal maladies, but of every disease to which cattle and horses were subject. Last of all (strange that it should have been so), awakened to a sense of her interest, England established a veterinary school, and devoted it to the same object as the continental ones—the study of the art of preserving the health of all domesticated animals, and principally cattle. Unfortunately, the English Veterinary College was established at St. Pancras, too near to the metropolis; and, like the one at Alfort, in the immediate neighbourhood of Paris, the influence of situation prevailed over the most excellent regulations that could be adopted, and the patients were principally, or almost exclusively, horses. In the French school, indeed, the instruction continued to extend to the treatment of all domesticated animals, although the value and effect of that instruction were much diminished by the want of cases illustrative of it; but in the English school, not only were there no horned patients, but not a lecture was given on the anatomy or diseases of cattle, and the pupils were sent where they would of necessity have the ox and the sheep as their patients without the slightest knowledge of the maladies of either.

A veterinary school was, however, established in Edinburgh, where the diseases of all domesticated animals were brought under the notice of the pupils. The University College in the metropolis of the south likewise admitted, for a short time, a veterinary school under its roof, embracing every object of the veterinarian's care; and a few short weeks ago, the governors of the St. Pancras School have acknowledged the anatomy, physiology, and pathology of cattle and sheep, and all domesticated animals, to be legitimate objects of the study of their pupils, and have appointed a distinct Professor with reference to this most important object. We exult in the announcement of this. We already anticipate its glorious results—not, perhaps, to be immediately and fully worked out—but the first step is taken, and there is no power that can long arrest the improvement of our art.

THE VETERINARIAN, JULY 1, 1842.

Ne quid falsi dicere audeat, ne quid veri non audeat.—Cicero.

They who have carefully attended to the progress of veterinary affairs, during the last two years, although they have seen much to excite their surprise and disgust, have felt assured that the dawning of better days was at hand. True it was, that ignorance or selfishness, or both, too much prevailed in establishments that should have exhibited the triumph of science. True it was, that there were those who asserted, and more who were led to believe, that sterling improvement could be the result of neglected duty and inefficient exertion; and, for awhile, the advocates of truth were regarded with suspicion and dislike. These delusions, however, would, of necessity, pass away, and justice would, ere long, be done to the interests of the agriculturist, and of the student of veterinary science.

The plain matter of fact was this: It was pretended that all due attention was given to the education of the veterinary pupil. The agricultural world especially was taught to believe, that a knowledge of the proper and scientific treatment of the diseases of cattle would be acquired, although no adequate attention was paid, or on the existing system could be paid to it, by the Professors of the Veterinary College. Deluded by the promise of that which could not be obtained—for there was no adequate teacher—a considerable sum of money was voted to the Veterinary College, for the purpose of affording additional means of instruction in the medical treatment of cattle, sheep, and other domesticated animals.

It soon, however, became notorious, that no additional scientific instruction, that could lead to useful purposes, was given on this subject, or intended to be so, and that, with the exception of occasional attendance on one of the cattle yards, no opportunity was afforded to the student to prepare himself for the honourable discharge of his future duty. A committee was appointed to

inquire into this, the result of which, strangely, was, an approval of the proceedings of the Veterinary College. In point of fact, the termination of the affair was unsatisfactory to those who had promoted the inquiry, and the work of sterling improvement was postponed or abandoned.

At length the matter became so glaring, that a member of the Council—one whose name is well known and dear to the veterinary profession—Mr. Shaw—moved, and it was carried, on the 3d Nov. 1841, that "the grant made to the Veterinary College be discontinued at the end of the current half year, unless it be shewn to the satisfaction of the Council, that additional and efficient measures have been taken to improve the system of instruction of the pupils of the College, so far as regards the diseases of cattle, sheep, and pigs."

In December, Mr. Handley gave notice that, in the February of the present year, he should move the reconsideration of this matter. It was reconsidered. Some curious disclosures were made with regard to the nature and the number of the lectures delivered on these diseases to the pupils in the ordinary routine of instruction given to them by the Professor. It was sufficiently clear that the number had not reached seven. It was then resolved, that "the grant of £200 should be continued to the Veterinary College, and that a report of the proceedings of the College with reference to the number of cattle-lectures and demonstrations, and also the number of pupils receiving certificates should be annually submitted to the Council." This was a most important resolution, and, sooner or later, must evidently have produced the most important effects.

The language of "the Committee of Veterinary Surgeons" addressed to the Governors of the Veterinary College, in November 1840, was now probably recollected, and had its due effect. It was as follows, and it did honour to that Committee. "With regard to the other subjects which the founders of the Veterinary College thought fit to select as essential to the education of the student—your Memorialists regret that you have not as yet thought it advisable to appoint labourers sufficient to carry all these original designs into effect—particularly the most important among them, the medical treatment of cattle, sheep, hogs,

&c.—convinced as they are, that such a resolution, on your part, would only equal the demands of the profession and the exigencies of the case. They, therefore, would respectfully suggest the election of such an able Pathological Teacher on Cattle, Sheep, &c., from among the profession, who can produce, at public competition, the best testimonials of his capability to discharge the duty of the office he aspires to."

Appeals like these were becoming too numerous, and too well founded in truth, to be longer resisted, and the following resolution appeared before the public.

"Royal Veterinary College.—At an Annual General Meeting of the Committee of Governors, held the 30th of May, 1842, at the Thatched House Tavern, St. James's Street, the Governors having considered it essential that Anatomy, Physiology, and Pathology of Cattle and Sheep, and other domesticated Animals, as well as that of the Horse, should continue to form part of the education of the pupil;

"Resolved, That a veterinary surgeon, who has graduated at the College, shall be appointed to lecture on these divisions of veterinary science, at a salary of £300 per annum, whose duties shall otherwise consist in affording general professional service in the College. Further, that such appointment shall be open to competition, and that sealed testimonials as to competency and character, accompanied by a statement of the age of the candidate and the period when he obtained his diploma, be sent directed to the Governors of the Royal Veterinary College, Camden Town, London, on or before 12 o'clock on Saturday, the 18th of June.

"Thos. France, *Sec. pro. tem.*"

We receive this announcement with exultation. Properly carried out, it will place the veterinary surgeon in the situation which he ought to have occupied many a year ago. It will identify the interests of the agriculturist and the veterinary surgeon, and it will be the commencement of a new and glorious epoch in the history of our art.

We can even almost forgive, if not forget, some circumstances which should not have attached themselves to so welcome an announcement. Its date is the last day but one of the month.

The veterinary periodicals were—ere this—printed and dispersed, and the readers of the metropolitan newspapers would be almost the only persons who would be aware of such welcome intelligence. Not one in twenty of the members of the profession would or could be aware of the noble change that was contemplated.

A strangely short period—not three weeks, to him who was aware of the circumstance from its commencement—was allotted to the candidate, to consult with his friends, and to obtain the signatures of those whom he once knew, but who were now at a distance.

We could even forgive, although it is the most grating of all, the announcement of that which will be required from the new Professor "whose duties shall otherwise consist in affording general professional service in the College." This refers chiefly to the probably continued retirement of Professor Sewell from the duties which he ought to fulfil, and the unfair thrusting of them upon those whose time would otherwise be fully occupied.

We have often pitied the situation of Professor Spooner, whose hours were so fully and oppressively occupied by the absence of the head Professor. He ought to be relieved, but not by the weight being thrown upon another, who, during the first years of his labours at the College, will have quite enough to do. It is a distribution of labour which does not take place in any other university or college, and which ought not to be practised here. Justice and common feeling should prevent it. When a teacher is permanently unable to discharge the duties of his station, there is a duty imperiously demanded of him.

The decision between the candidates—five or six in number—has been made, and Mr. Simonds is the Professor of Cattle Medicine. He has long been known by name to most of our readers—he was a pupil of ours, and we are perfectly assured that he will faithfully discharge his duty. There were some good and worthy names among those upon whom the lot did not happen to fall.

Y.

Those who are engaged in the exposition of truth, and, through its means, of the advancement of science, can desire nothing better than the free and full discussion of the question, whatever it may be, out of which the truth is ultimately expected to be elicited. The more important and difficult the question at issue, the more valuable, in general, the truth arising out of it. The subject of shoeing horses, I need hardly say, is one of paramount importance to the veterinarian : a knowledge of it constitutes one of the main objects he has in view in making himself master of the anatomy and physiology of the foot ; and this knowledge turns out useful to him at every step of his professional practice in after-life.

The question, whether it be necessary or expedient that a veterinarian should, in addition to his science of the anatomy and physiology of the foot, possess himself of a knowledge of the *practice* of the farrier or shoeing-smith's art, has already drawn a few observations from us, and, in reply likewise, some, which do him credit, from Mr. Hawthorn ; and we will take upon ourselves to add, that the perusal of both these accounts will convince any unbiassed mind that there is but little and unimportant difference in opinion between Mr. Hawthorn and ourselves. We may have carried our notions of the extent of the knowledge of this art which the veterinarian should attain "a little too far," as Mr. Hawthorn thinks ; but in the main points we are manifestly agreed, as is plainly seen from the following passages in Mr. H.'s communication :—"That such a knowledge may be an advantage I do not deny"—"He (the veterinary surgeon) should be able to take a shoe off skilfully, and put it on again in a temporary way ; and he should be clever in paring out a horse's foot." And why not, while he is learning to do this, learn at the same time, with tolerable dexterity, to make a horse-shoe ? In recommending this addition, we are not, as Mr. Hawthorn appears to think, supposing that a veterinary surgeon will pretend to work in his own forge—we know too much of the unprofitableness and labour of the black work of forges for that—and, besides, we should hope his time, and hands too, would be far better—we are sure they could hardly be less lucratively em-

ployed than in hammering out horseshoes. But, in being able to make a shoe himself, we contend he will know more about the work performed by men whom he will find necessary in practice to have about him; and in understanding how to pare out a foot and put a shoe on, even "in a temporary way," he will find very great convenience and satisfaction, though it might not add much to his profits. Again, in being able to make a shoe himself, he will understand more about iron, a commodity he may possibly have to lay out some pounds for in the course of the year.

What was said in our article of last month on the subject of nail-making was a mere supplementary remark, and had little to do with the object for which we were contending, viz. that part of the veterinary student's education should consist of instruction in the work performed in the forge. If perchance he should happen while there to learn to make a horsenail, as well as turn a horseshoe, where would be the harm? And would there be no good accruing from it? Suppose, when he got into practice, he should happen to find it expedient to employ a nailer in his forge—and we happen to know establishments where this is done—would it not be some advantage to him to be able to judge of his nailer's work?—to tell whether the nails were ill or well manufactured? Depend upon it, the veterinarian who can walk into his forge furnished with such knowledge as we are contending for, will possess many advantages over a mere "running doctor," and which advantages will, many of them, shew themselves in the shape of pounds at the end of the year, when he comes to make up his Christmas accounts.

We will conclude these additional observations—which, if we do not mistake the tenour of his communication, are synonymous in their tendency with those penned by Mr. Hawthorn—with the following interesting anecdote, narrated over the social board by a professional friend to another and myself, of a celebrated, and truly valued, deceased member.

"I never shall forget the first occasion on which I met the late Mr. John Field. It was at a foot-case. He took off the shoe and pared out the foot, and bit-by-bit examined it everywhere,

the same as if he had been a farrier or a blacksmith himself. And, having done this, with the same neatness and expertness he nailed the shoe on the foot again. Oh! it gave me a noble opinion of the man, whom I had before known only by name. This, thought I, is a practitioner indeed!!" P.

We request the attention of the veterinary surgeon, and more particularly of the veterinary pupil, to Mr. Carter's "Lithographed Drawing of the Arteries, Veins, and Nerves of the Horse." The accurate delineation of the origin, connection, and termination of these important portions of the frame reflect the highest credit on Mr. Carter.

We would also request our readers not to forget the testimonial to Mr. Shaw. A more ardent friend to the veterinary profession does not exist; and we can trace, to a considerable degree, the important introduction of the new professor of cattle medicine to the ardour with which he has ever supported our cause. The subscription will now speedily close. We shall be most proud to be the means through which any contributions may be conveyed to the Metropolitan Committee.

ON THE RAPIDITY OF THE ABSORPTION OF POISONS.

By Mr. Lane.

The rapidity with which death follows the application of hydrocyanic acid, the woorara poison, and some others, which has been described as instantaneous, was considered to be explicable only on the supposition that the nerves conveyed the poisonous influence to the brain with the same velocity that they conducted their ordinary impressions to that organ: but Mr. Blake, by numerous varied and well-conducted experiments, has most

satisfactorily proved,—"First, That the time required by a substance to permeate the capillary vessels may be considered inappreciable. Secondly, That the interval elapsing between the absorption of a substance by the capillaries, and its general diffusion through the body, may not exceed nine seconds. Thirdly, That an interval, always more than nine seconds, elapses between the introduction of a poison into the capillaries or veins and the appearance of its first effects. Fourthly, That, if a poison be introduced into a part nearer the brain, its effects are produced more rapidly. Fifthly, That the contact of a poison with a large surface of the body is not sufficient to give rise to general symptoms, as long as its general diffusion through the body is prevented." He has drawn up the following table, deduced from his experiments, to shew that these rapidly fatal poisons act in different animals in the exact ratio of the rapidity of the circulation:—

Time required for the blood to pass from the jugular vein to the capillary terminations of the coronary arteries:

In the Horse	16 seconds
Dog	11 to 12
Fowl	6
Rabbit	4

Time that elapses between the introduction of a poison into the jugular vein, and the first symptoms of its action:

In the Horse	16 seconds
Dog	12
Fowl	6½
Rabbit	4½

AN ACCOUNT OF SOME OF THE BOVINE ANIMALS IN THE DISTRICTS OF NORTH AFRICA.

Communicated by Mr. Crowther, *of the Queen's 63d Regiment.*

The "Sherif al Wady" (or *river-chief*), stands six feet and upwards at its elevated withers. General form, bisontine; the carcass somewhat narrow, with flakes or rolls of fat on the side of the neck; the limbs fine-boned, and rather long, being terminated by comparatively small neat hoofs; the succentorial rather long; tail short, with its tuft of frizzled hair not reaching to the hocks. The head, it would seem, much like that of ordinary cattle, with small pointed ears, generally borne pendent and naked of hair internally and towards the tip, which are of a delicate pinkish flesh-colour; eyes small and dark; the horns thick, cylindrical, smooth, until towards their base, where they are a little rugose, and directed almost vertically upwards from the sides of the forehead; their colour dark, and their length about a foot and a half. The character of the coat approaches that of highland cattle in Britain, but is smoother toward the under parts, with curly hair on the forehead; some pendant hair from the site of the dew-lap (which latter is wanting) of the dark colour of the body, and a long but scanty white tuft hanging from the prepuce, as in fallow-deer. General colour, blackish brown, with a white belly; the centre of the hump pale ash-colour, or even whitish, with radiating black hair surrounding this, four or five inches long.

The cow is smaller, and of a redder colour.

The individual described was brought with two others, another male and a female, from the central region of Mount Atlas, and was presented by the Emperor of Morocco, in the year 1834, to the late Sir Peter Schousbæ, who gave it to Mr. Crowther, in whose possession it lived for four months at Tangiers, when it was shot.

It became tolerably tame, and its voice was a booming low, although, when irritated, it would roar in a different tone. The

flesh proved to be rather coarse-grained; but that stripped from the sides of the dorsal apophyses or hump, was excellent, and had the flavour of tongue. The skin was attempted to be preserved, but was destroyed by the rats. It was considered to be rather a rare animal. Should the above indications of it be confirmed, as I have no doubt they will, I propose that the species be denominated *Bos Atlantinus*. It is not improbably the Empolunga of Purchas.

The other wild bovine species is much commoner, and has also much of the bison in its general contour. Size that of Devon cattle, and colour red, with a flowing blackish mane (hence this animal is probably the *Wadan* of Capt. Lyon, if not also the *Pacasse Empacasse*, or *Pegasus* of different authors). Its horns are very long and spreading, in both sexes, but more so in the female, wherein they are also more slender. They are cylindrical, a little rugose towards the base, and directed outward and upward; head not much unlike that of common cattle, with no curly hair on the forehead; the ears of moderate size, and broad; and tail with its tuft reaching below the hock; the hoofs are very black, and the secondary, or succentorial, short. There is little difference between the male and female in general aspect, but the calf is born of a whitish colour. The voice of this species much resembles that of common cattle; but is considerably more powerful. Its beef its excellent. They are occasionally seen solitarily, but more commonly in large herds, sometimes consisting of several hundreds. At the rutting season in particular, which is about July, they are very fierce, and apt to attack without provocation. They feed in the night, and by day pass much of their time standing knee and belly deep in water, like our tame cattle in summer. Their coat has a wavy surface. This species is found about Rabat, and near Salee, on the Barbary coast. I have heard before of such an animal, and it appears to be tolerably common.

Proceedings of the Zoological Society of London, part ix, 1841, p. 64.

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LECTURES ON HORSES.

By WILLIAM PERCIVALL, *M.R.C.S., Veterinary Surgeon First Life Guards.*

LECTURE IV *(continued).*

THE SHOULDER *(continued).*

ALL "judges of horses" concur in the necessity, for the purposes of *riding,* for depth and obliquity of shoulder: if there be any discrepancy in opinion among such persons, it consists in one preferring a *strong,* another a *fine* shoulder. Even this, however, can hardly be said to amount to any division of judgment; for the thin shoulder will not, with "true judges," gain admiration unless it possess depth and strength; nor will the thick one be altogether approved of unless it *rise* at the withers; in a word, we shall find what is considered by judges on both sides to constitute perfection of shoulder, to reside in a happy combination of depth and obliquity with strength and fineness; and if we desire any confirmation of this, we have only to make our observations on horses known to ride and go as horses ought to perform—on celebrated hunters, horses in Leicestershire, and all our capital studs, who in form are, nowadays, bred as near to perfection as, probably, it is possible for art to attain. I say "bred," because perfection of shoulder, like all animal formation, has manifestly been greatly promoted by attention to breeding.

In a racer—although there are race-horses enow in whom this formation exists and operates in its greatest beauty and perfection—

the shoulder is not to be considered so much as the hind quarters and loins. Daily observation shews us, that the shoulder may be any thing but perfect in formation, and yet possess a good deal of action—that, as I said before, we are not advanced to that knowledge of shoulders which will enable us to pronounce on a horse's action by bare inspection of them: we cannot positively say his action will turn out very bad, or must prove very good; we pretend to know nothing *for certain* until the horse is put into action, and then, possibly, we may discover reasons why his action proves so much better or so much worse than we had anticipated. Many excellent racers have what we should call any thing but perfect shoulders; their good qualities are amply accounted for in their round fleshy loins and lengthy muscular hind quarters: on the contrary, many, I repeat, possess as handsome and well-formed shoulders as can be desired; and when this occurs along with the requisite strength and length in the hind quarters, surely it must be regarded as a great advantage, providing the action be fitting and commensurate.

But for Harness, or even for support of burthen, as I observed in my last Lecture, the thick or heavy or loaded shoulder is to be preferred to the one that is thin, or that is oblique: a horse so formed is, *cæteris paribus,* actually stronger in his shoulders, capable of carrying and drawing heavier loads; in a word, better formed for these duties. It is not compatible with animal power to exert great strength in draught or carriage, and at the same time step out much in action: the short step husbands the strength, the long one expends it beyond the power of the animal to repeat the act many times or for any continuance with the same effect. It is no answer to this to say, we see horses with excellent action drawing very heavy carriages and still displaying their action in draught. Some horses, it is apparent enough, are in possession of such strength even in action that what would ordinarily be considered a heavy load does not oppress them: still, as a general rule, I have no fear in asserting, that both heavy carriage and heavy draught at first cramps or limits, and ultimately tends to habitually diminish action: the horse finds, with the enormous weight behind or upon him, that he cannot, as he could before, step out in action; he perceives, if he does, that he soon exhausts his strength, cannot make way with his load, and therefore, compulsorily, shortens, and at the same time quickens, his step, not bending and rounding his legs in action as he did when out of harness, or when his draught or burthen proved but light. I well remember a little strong mare I used to drive in my four-wheel chaise, who stepped out remarkably well and even went with great freedom upon a level road; but who, the moment she came to any ascent or hill or bad piece of road, where she perceived the draught

heavy, would shorten her step and go pattering along as though she had all at once fallen lame in her feet. In respect to the uprightness or straightness of what we may now call "harness shoulders," there seems to be some connexion between their formation and the common remark in the mouths of coachmen, "the collar cannot set too upright" in position: the straight shoulder affords good reason for such advice, for the scapula and collar will lie nearer in the same line, act therefore more harmoniously together, and the horse, in consequence, will be likely to work not only more agreeably to himself but with greater effect. If this be the proper view to take of draught, so far as the harness-collar and the scapula are concerned, the exposition may prove the means of throwing some light on the "setting" of the former: the remark of the coachman is founded on experience: he knows well that in general the collar cannot "set too upright," because—a circumstance perhaps he does not heed—his horses are in general of that description that have thick straight shoulders: when, however, the shoulders happen to be oppositely formed—such as are better adapted for riding than for drawing—we submit, the coachman's remark must fall to the ground, it being advisable, in such a case, that the set of the collar should be oblique—correspond, in fact, with the inclination of the scapula.

"A FINE SHOULDER" is a phrase among horse-people too often apt to be misapplied. Because a horse happens to have very great depth and obliquity in his shoulders, with high tapering withers, he is often said to possess fine or perfect shoulders, when, in reality, he probably lacks in them the very property of more consequence than any other we have been considering, and that is, *muscularity*. His shoulders are oblique and deep, and thin at the withers; but so bony are they, so deficient of flesh or muscle, that the blade-bone appears as if it had no covering save the skin, through which its outlines are sufficiently apparent to render the horse a most desirable subject for any student of the anatomy of the bone to make observations upon. Muscle-less, and consequently weak as such shoulders are, horses having them often are endowed with brilliant action, and for riding turn out most agreeable; to carry or draw weight, however, or as hunters—or even as racers, except for light weights and short distances—these horses never can turn out of any value: unless they happen to have—which is very seldom the case—extraordinary powers in their arms and hind quarters, and width in the chest. When the reverse of this accompanies the thin fleshless shoulder, however deep it may be, however oblique, however fine upon the withers, for all purposes where stability, strength, and endurance are required, it is absolutely inefficient.

Before I quit this most important subject—the shoulder—I will endeavour to redeem a promise I made at the conclusion of the last lecture, viz. to shew that young horses, after they have to the common observer appeared to have completed their growth, do actually "rise" or grow in their withers, even in some instances after the expiration of their seventh year.

So extremely variable and uncertain is found to be the growth of animals, that it is with a full sense of the fallibility of our predictions that we, at any period of their lives, offer opinions about the height they are likely to attain. I have heard a gentleman very conversant and observant in these matters say, it is best not, in purchasing horses, to make too sure of their growing after the third year of their age; and where colts at this age have the appearance of being proportioned, and, as the phrase goes, "set," this is a practical hint which I hold to be well worthy of remembrance: as a general observation, however, it by no means applies. In our table, 17 three-year-olds out of 144 appear not to have grown in height, making a ratio of twelve per cent. Our faculty of forming tolerably correct opinions concerning future growth will mainly depend upon our opportunities of observation and the accuracy with which we may make deductions. Growing young horses, like growing boys and girls, are, as the phrase goes, "all legs and wings." An old saying is in vogue, that the future tallness of the colt may be foretold by measuring the distance from the elbow to the ground, and carrying the same measurement upwards from the elbow upon the withers: both distances will be equal at the completion of growth; whatever, therefore, is, at the time of admeasurement, wanting in the upper line will have to be made up by growth, or, in other words, will constitute what the animal has yet to rise in the withers. Some persons put a good deal of faith in this presumed attainment of certain proportions: for my own part, I cannot say I attach sufficient credit to it to put the comparative measurement in practice. According to the table—compiled from the scanty, though not, we believe, faulty records we have at hand—there is not more than one horse out of eight or nine that does not continue his growth after the third or even the fourth year of his age; whereas, after the second year, the proportion diminishes to one in seventeen or eighteen; and, at the fifth year, increases to one in five or six. There are seven instances recorded of horses growing after six years old; and one after the seventh year of age.

One instance stands recorded in the table of a two-year-old colt having made the extraordinary rise of 8½ inches by the time he had completed his growth. He measured 15 hands 3½ inches as a two-year-old, and at the adult period, seven or eight years of age, had attained the enormous height of 17 hands 3 inches. He was a

long-legged, ill-proportioned animal, with good courage and very good carriage of himself, and for this latter reason proved a pleasant horse to ride, though by no means a strong one. In regard to the quantum of growth likely to be made after the respective ages of 2, 3, and 4, on the average, one inch appears by the table to have been acquired after the second year, $\frac{1}{3}$d of an inch after the third year, and $\frac{1}{3}$d after the fourth year.

I submit these calculations with considerable diffidence, on account of the limitedness of the records from which I have—in the absence of more—been forced to take them. In its present imperfect state the table may serve as a sort of guide for rough calculations, and to direct us in future inquiries.

A Table,

Shewing the relative Growths 255 Horses have made at 2, 3, 4, 5, 6, and 7 Years of Age.

Number of Horses 2 Years Old.	Increase of Growth.	Number of Horses 3 Years Old.	Increase of Growth.	Number of Horses 4 Years Old.	Increase of Growth.	Number of Horses 5 Years Old.	Increase of Growth.
	INCHES.		INCHES.		INCHES.		INCHES.
1	8½	1	5¾	2	3	2	2
1	5	2	4¼	1	2¾	1	1¾
1	4	1	4	4	2½	1	1¼
3	3¼	3	3¾	3	2¼	2	1
1	3	1	3½	2	2	3	½
1	2¾	5	3	1	1¾	2	None.
2	2½	4	2¾	5	1½	11	6½
3	2	5	2½	3	1¼		
2	1¾	3	2¼	8	1	Number of Horses 6 Years Old.	Increase of Growth.
3	1½	7	2	3	¾		
6	1	8	1¾	13	½		INCHES.
3	¾	10	1½	6	¼	1	2½
2	½	11	1¼	7	None.	3	1
4	¼	27	1	—	—	1	¾
2	None.	11	¾	—	—	2	½
—	—	17	½	—	—		
—	—	11	¼	—	—	7	4¾
—	—	17	None.	—	—		
—	—	—	—	—	—	Number of Horses 7 Years Old.	Increase of Growth.
—	—	—	—	—	—		
—	—	—	—	—	—		INCH.
35	36¾	144	40¾	48	19½	1	¾

A CASE OF FRACTURE OF THE SIXTH COSTA, AND PROTRUSION OF A PORTION OF THE RIGHT LOBE OF THE LUNGS.

By Mr. Joseph Carlisle, *V.S., Wigton.*

On the 2d of July, 1841, a pony, the property of Mr. Vasty, of Jenkin Cross, was sent to my establishment with a severe wound on the right side, inflicted by the horn of a bullock. On examination, I found the sixth rib fractured, and the fractured part projecting into the cavity of the thorax, and a portion of the posterior and inferior ala of the right lobe of the lungs protruding through the opening.

Treatment.—I proceeded to detach the fractured portion of bone, which was about two inches in length, and of the thickness of a crow-quill; in fact, it was the ridge of the costa. I next returned the protruding portions of the lungs, and brought the edges of the wound partly together, and retained them by the metallic suture. The hair was shaved off, and about eight inches of the transparent plaister applied, and above this a brown linen roller laced at the ends. I abstracted blood until I produced syncope, and administered an aloetic oleaginous draught. The diet was confined to thin bran mashes, with a liberal allowance of tepid water. He was then placed in a loose box, and had his legs bandaged. Pulse 86, and respiration laborious at intervals.

3*d*.—Pulse 96; respiration intermitting; mucous membrane pale, vessels injected; fæces semifluid, but scanty. On each side of the roller much tumefaction; occasional fits of rigor, and no inclination to feed. I ordered hot fomentations to the parts, and administered with great care, tinct. hyoscyami, tinct. lobel. inflat. āā ℥j, tinct. digitalis, tinct. scillæ āā ʒij, perfect quietude being observed.

4*th*.—Pulse 90; respiration more tranquil and regular; bowels freely acted upon. He refuses mashes, but picks a little hay; the swelling stationary.

Rub the legs and bandage again; foment and administer spt. nit. ether. ℥j, infus. lini sylvestris Oj.

5*th*.—Pulse 75. The swelling becoming dropsical; the appetite improving; fæces semi-fluid; occasional shivering, particu-

larly when disturbed; scarify the swelling, and rub in ammoniacal oil. Give as a drink—

Spt. ether. nit.
Tinct. ferri muriat. aa ℥j
Infus. lini sylvestris Oj.

6th.—Pulse 56. Appetite good; clear serum dropping from every puncture, and the swelling much reduced. Repeat medicine as before.

7th.—Pulse 40. Appetite normal; swelling fast subsiding. The roller was removed, and the lips of the wound were observed to have retracted. Some of the sutures had given way; suppuration had taken place, but to no great extent. Remove the undone sutures that still remain; slightly sponge the wound; use very little water. I confess that I am a little fearful that some of the droppings may penetrate into the cavity of the chest. Dress with warm compound myrrh tincture; exclude the air with the emp transparens, and apply the roller.

8th.—Pulse regular—feeding well—swelling nearly gone. Remove the bandages, hand-rub the legs and apply the bandages again. Diet to consist of bran mashes and crushed oats, with good hay: give in his mashes

Ferri rubig..... ℥ij
Nit. potass..... ij.

The above treatment was continued until the 11th, when the roller was removed. The remainder of the sutures had given way, and were removed. Cleanse the wound, and dress as before, and apply the emp. transparens.

14th.—The wound was again examined, and was found to be going on well, the healing process making rapid progress. Add a solutio sulph. zinci to the tincture, and dress as before. Continue medicine. When the roller is removed, the air continues to escape from the opening, which was evident from the distention and collapse of the emp. transparens. This was synchronous with respiration until the 5th of August, when the wound finally closed, and a cure was accomplished. The rib was speedily covered with granulations, and no untoward symptoms intervened after the 7th.

In cases similar to the above, I consider the emp. transparens indispensable. We may remove the bandages, and observe how the wound is going on, without exposure to the atmosphere.

CASES CONNECTED WITH PARTURITION.

By Mr. W. A. Cartwright, *V.S., Whitchurch, Salop.*

DISEASED UTERUS IN A BITCH.

On the 6th of April, 1841, I saw a small pet bitch, of the French breed, ten years old, that had been a little unwell during the last day or two, and it was thought that she was unable to pup. I examined her, but could not detect any thing in the passage, nor did there seem to be any preparation for parturition, as it was not swollen or dilated; I therefore left her alone for the night, but, before morning, she had produced two puppies, and seemed going on very well. Towards night she was not so well, and I fancied she wanted a little opening medicine, as some parts of the abdomen felt hard. I therefore ordered a little ol. ricini, but the next morning she was found dead.

Examination.—At the farther end of the uterus there was a full grown pup in a state of putrefaction, and, opposite to it, a diseased place in the uterus, the centre of which was ulcerated through.

I have no doubt she was ill from this disease before she pupped, and probably nature was trying to rid herself of the diseased mass prior to pupping time. Perhaps she had had a blow over the part, which had destroyed the fœtus and injured the uterus.

EXTRACTION OF A CALF—DIFFICULTY WITH THE HEAD.

16*th April*, 1842.—I was sent for to a two-year-old small heifer, from which the calf could not be extracted. I found the fore legs and head in the passage, and with ropes on, and ascertained that great force had been used to pull the calf away, but it would not come, on account of the head stopping the passage. In this case the head was in a tolerably natural situation, or, I would rather say, resting with one cheek on its fore legs, and I thought it wanted to be drawn forward. I accordingly tied a cord round its lower jaw, and with some difficulty we extracted the calf alive; but the fore teeth were loosened, although the jaw was not broken.

In this case, although the head was presented, yet, by pulling at the feet only, the head was, in a manner, kept behind, and partially forced back upon its neck; but by tying on a cord, it was kept in its proper place, and the uterus would then act as well on it as the other parts.

Would it not be better in such cases as this to tie a cord, if possible, round the neck of the calf instead of the jaw, so that the whole head would be brought along, which would avoid the danger of breaking the jaw, which, in some instances, is the death of the calf, though many live after the jaw being seriously injured or broken? By pulling at the lower jaw only, the upper one and the head are liable to be pressed against the upper part of the vagina, and so obstruct a little the extraction. I think it advisable in tying the cord on the lower jaw to pass it on the skin, as it enables us to pull with greater strength. Sometimes in the foal there are no front teeth, and the jaw is so rounded off, that a cord will not stick on it.

RUPTURED UTERUS AND CÆCUM IN A COW.

On the 17th of February 1842, about the middle of the day, an aged cow was calving, and the feet were seen. She was left alone until about six o'clock of the same day, when a person examined her, and found the calf's head doubled back. He put it right, and the calf was soon taken away. Towards eight or nine o'clock at night the cow was thought not to be well, but it was agreed that she should be left alone until morning. On the next morning, about six o'clock, I was called to see her.

I found her standing up, looking sadly, and her pulse indistinct; and, on introducing my hand into the uterus, I found that it was ruptured, and informed the owner that she would die. In an hour or two afterwards she was found to be sinking, and, as she was in good condition, she was killed and dressed.

Examination.—About the neck of the uterus there was a rupture sufficiently large to admit of the passage of one's head. On the abdominal viscera some of the contents of the bowels were thinly spread, and, on ascertaining whence it came from, we found there was an opening at the very end of the cæcum, and which we supposed had been burst by the pressure of the calf, it being probably in a state of distention at the time. It did not appear inflamed, but there was some coagulated blood about the rupture. The rupture of the uterus, I have very little doubt, was produced by the person who righted the head, as he was a rash, athletic man.

I recollect being called in to a cow where the head, fore legs, and body had been removed, and the hind extremities were intended to be extracted by the application of greater force, but on introducing the arm no part of them could be found. I was then sent for, and soon discovered that the uterus was ruptured to a very great extent, admitting thereby the remaining part of the calf to recede from out of our reach, and the uterus being

disabled to contract on its contents. She lived several hours after the rupture had taken place without evincing any apparent pain or debility, and was then destroyed.

PARTURITION IN A SOW—NON-EXTRACTION—SEPTUM IN THE VAGINA.

On Wednesday night, the 23d March 1842, a "gilt" of Mr. Huxley's, of this town, produced four pigs. She was uneasy all the day before. The first she pigged was about nine at night, and the last about three on the next morning: from this time she was left alone.

24th, 11 A.M.—Mr. H. came to me, and said she was continually straining, and yet no other pigs could be detected. I examined her, and could just feel the nose of another; but with all her straining she could not force it onward. I then, with some difficulty (as the pig was far up the vagina and the passage very confined), put a small hook through the lower jaw, but it soon broke out. I next put it into the upper jaw, the eye-holes, &c., but in every place it tore out. At length, I pulled away the ends of the upper and lower jaw with my fingers; and afterwards I got my finger into one of the eye-holes, and in pulling at it a part of the bones of the face came away. During the time all this was doing she was under the influence of the ergot of rye, administered in about fifteen-grain doses, and repeated every hour for three times, and I thought with good effect, as her labour pains were strong and continuous.

Finding, about three o'clock in the afternoon, that the passage was becoming narrower, and that we could not attach any thing to the head, and she being excessively fat, and about eleven score weight, I recommended that she should be killed, as I feared she might otherwise die from the force we had used in handling the parts, and accordingly she was destroyed.

Post-mortem examination.—On cutting open the vagina I found that, at about five inches from its orifice, there were two distinct passages, but that on the right hand being the largest. This division appeared to be formed by a strong band, composed, to all appearance, of muscular fibre, and covered with the mucous membrane, the same as in other places, and was attached to the upper and lower part of the vagina, but inclining a little more to one side. This attachment was, in extent, about three inches, but the membrane extended both ways from it for at least two inches farther, in a loose manner, thus dividing the vagina, for about seven inches, into two distinct cavities.

Observations.—I think it highly probable that the four pigs which she produced had come through the largest passage, and

that the last pig had become impacted in the smaller one, which was not sufficiently large for it to pass through. I am inclined to believe that the membrane had been, from its appearance, torn a little at each end by the force from behind in the action of the uterus, and at the other end by the force we used in trying to get the pig away. This case would not allow us to get the whole hand in; nor could I get the hook behind the head, or a noose on the jaws. The vagina, in this case, was about twelve inches long beyond the division, and very capacious.

Two of these pigs came away with the rump forward; and I am inclined to think, from observations during pigging times and dissections, that one-half of them come in that position.

I fancy that, in parturitions of the sow, the great action in the expulsion of the fœtus must be in the vagina, which is strong and capacious. The vagina in this case, although it was her first "belly of pigs," was, I should think, two feet long before reaching the bifurcation of the uterus; indeed, I would say that the uterus was made up of the two bifurcations only. There are separate placental membranes, though slightly connected together, which is shewn by pulling one out and the other passing with it. In this case the vagina was not injured by the hook; but, for a short distance before reaching the pig that we could not extract, there was a distinct demarcation, a line which was abraded and rough from the action of our fingers, &c. If this sow had been a poor one, and but of little value, I should have advised the pig to have been left in her, in the hope of its decaying away; but as she was fat I advised her being killed, because I feared she would die from the injury she had sustained in the assistance that was attempted.

NON-EXTRACTION OF THE FŒTUS OF A EWE.

On the 7th April, 1842, I was sent for to Mr. Dickins, of the Black Park, to attend a yearling ewe that could not yean. The os uteri was pretty freely dilated, but only the poll of the head was presented, and the nose was pointing down towards the udder. As there is but little room in some of these animals to admit the hand, we can often only use the fingers; but in this case I could not even get my fingers to reach the nose and pull it straight. I therefore worked through the skin, and pulled the skull to pieces, which I in part removed, by which means I was enabled, with great difficulty, to get the head into its proper position. I then pulled at the lamb, but could not get it away, for it broke off about the second or third cervical vertebra. After this we were enabled only to get two more bones of the neck away, and we then left her to her fate, hoping that the fœtus might gradu-

ally rot away. At night she died. The next day I examined her.

Examination.—The fœtus was a very large one. It was in a highly emphysematous state, and probably had been dead a day or two. The fore legs were doubled up at the knees, and lay against the sides of the shoulders, in their natural situation. I am inclined to think the great cause, in the present case, of our being unable to extract the fœtus, was its unusual size, but the knees probably may have pressed against the pelvis. In these cases, as in the sow, but little assistance can be rendered on account of the want of room, unless it is by the Cæsarean operation.

P.S.—It being my intention to compile a work on this subject, I shall feel particularly obliged by any of your readers furnishing me by letter, or through the medium of THE VETERINARIAN, with any particular case or cases on this very interesting, practical, and neglected subject, and which shall be duly acknowledged. Every veterinary surgeon must see the want of such a work of reference, as what is really known is scattered throughout the now numerous volumes of THE VETERINARIAN and a few other works.

A SUCCESSFUL CASE OF PHRENITIS.

By Mr. R. FENTRESS, *V.S., Newcastle-upon-Tyne.*

THE subject was a strong brown horse, seven years old, belonging to Messrs. Walker and Winship, of Percy-street Iron Works.

The history and symptoms of the case were as follow:—He refused his food on Tuesday the 28th of the last month, and appeared dull and stiff in his movements. He had some difficulty in swallowing either food or water, and his bowels were slightly irregular, but not so much so as to excite any alarm.

A farrier attended him during the first four days, and in that time he was only bled once. Injections were frequently given; a blister was applied to his throat, and steam bags to his nose; but no opening medicine had been administered to him at any time, the farrier thinking the case to be merely of a catarrhal nature.

The nose bags excited the patient so much, that they were discontinued.

Friday (1st inst.) he had a severe paroxysm, which lasted about fifteen minutes, after which he became calm. When he

was in a state of great excitement, he wandered round the stable, very frequently putting his head into the corners—his hind legs jerked up at every step, with twitching movements—his neck and head in a horizontal position—the ears erect — the eyes glassy—the pupils dilated—he foamed at the mouth and nostrils, appeared to have some difficulty in swallowing. The fits commenced on Friday morning, and returned about every three or four hours, until the following day, when they increased to every half hour. A nose-bag was put on this morning, after which he became so furious, that he reared and dashed his head through the ceiling, and wandered round the stable foaming like a mad beast.

On the 2d inst. I was called in at half-past ten o'clock, P.M., for the first time, when he was in one of his paroxysms. I waited about ten minutes, and he became calm and settled, with his head towards the door. His breathing was excited during the fit, but soon subsided ; his pulse was corded, and small, and 60 per minute—ears and legs warm—eyes glassy—pupils dilated—conjunctiva injected, and also the nasal membrane—a quantity of frothy spume at his mouth and nose, with trismus at the jaws —abdomen rather tense, with slight perspiration in various parts of the body.

I ordered him to be bled to a state of syncope, which was done with great difficulty. After we had got about a quart of blood he became as furious as ever ; and it was with much trouble and some danger that we succeeded in getting about six quarts. The orifice was now pinned, and he soon became tranquil. His pulse had risen to 70. I ordered that some one should be constantly with him, endeavouring to keep him as quiet as possible, and to bleed him again about three in the morning, if he had any more fits, and give him an aloetic bolus. He had another fit during the night, and was bled to the amount of four quarts.

I saw him again at eight o'clock, A.M., when he was attacked with another fit of a milder kind. The pulse 64, rather softer ; other symptoms much the same. Two quarts of blood were withdrawn, which appeared to produce fainting. I now administered a strong sedative, composed of muriate of morphia, belladonna, with hydr. submur., and allowed him hay tea, which he drank freely during the day. We also administered injections, which operated very well.

Seven o'clock, P.M.—Pulse 80, small and irregular. He appears weak ; other symptoms much the same. The sedative mass was given as before, with 3j of hyd. sub. He still foams at the mouth, but does not wander so much about the stable.

4th.—6 *o'clock*, A.M.—He continues to wander a little, but

appears more conscious, and pays greater attention to his driver. Pulse 90, very soft, and rather more developed; in other respects similar to last night. The bowels were slightly moved with the injections, and the sedative ball continued, with the addition of resin. Allow him to remain as quiet as possible, and let gruel and tea be given as before.

8 *o'clock*, P.M.—He appears rather better; has had his bowels moderately acted upon; the pulse 80, very calm; less frothy spume at his mouth; his nostrils discharging a little white matter: continue the bolus and hyd. sub. as before.

5th, 8 *o'clock*, A.M.—Purging; he looks much better; is inclined to eat a little green clover; pulse 70; his eyes more natural; the pupils contract with the light as usual: the salivary discharge has ceased, and all the aggravated symptoms have disappeared. Omit the medicine.

7 *o'clock*, P.M.—Purging freely; appetite improved; can move his head and neck freely: pulse 60; has had no fits since yesterday. Altogether he is doing well.

From the 6th to the 9th he gradually improved.

Remarks.—He was a horse that fed grossly, and was in high condition. He had been fed, previously to his illness, with corn and green clover. At the first he was treated for a severe cold.

I am of opinion that the sole mischief arose from a derangement of the digestive organs, thereby disordering the circulation, and producing those symptoms of nervous irritability, as phrenitis, trismus, nausea, &c., which were exhibited throughout the attack. I confess it is rather a solitary case in my practice, and created much interest. I have had many cases which are commonly called "stomach staggers," but never in the whole course of my practice met with one similar to this. It was a bad case, and at the first I had little or no hope of his recovery; but, however, I have been agreeably surprised. The horse is now doing exceedingly well, and will, I have no doubt, in the course of a short time, be able to resume his work.

A SINGULAR CEPHALIC AFFECTION IN A COW.

By Mr. J. SMITH, *Veterinary Student, Ormskirk.*

Ormskirk, July 12th, 1842.

Dear Sir,—I HAVE sent you the following case, which, if you think worthy of a place in your valuable Periodical, is perfectly at your service. A cow four years old, the property of Mr.

Moorcroft, in this town, was taken suddenly ill in March last, at 9 o'clock, A.M. Mr. M., on finding her in this state, immediately came for my father: he not being at home at the time, an hour had almost elapsed before he saw her. On going into the cow-house, my father's attention was first drawn to her biting the wall before her, and also the partition, and separating herself from another cow. There was also a great discharge of watery fæces, of a very fœtid smell; the ears, horns, and extremities very cold; the pulse 75, and wiry; the eyes fixed; the iris much dilated; dimness of the cornea, or, in fact, the loss of the power of vision: a great discharge of saliva from the mouth and nostrils.

She was first bled; but she had not lost more than three pints of blood when she began to stagger, and the orifice was closed. She then had administered to her sulph. mag. ℥xij, ammon. sesq. carb. ℥ss, pulv. anis. sem. q. s., aq. tepidæ Ojss.

1 *o'clock*, P.M.—We saw her again: she appeared somewhat better; but still biting the wall a little. Mr. M. had put some clothes upon her, but she pulled them off immediately. She is now recovering her sight*.

3, P.M.—Still better; pulse 65, and soft.

5, P.M.—Appears a little dull: give spt. etheris nit. ℥j.

7, P.M.—She now appears much better, and has a desire for food. She ate a bran mash, and also drunk a little thin gruel. Pulse 65, and stronger.

9, P.M.—We went to see her, and found her lying down and ruminating. Pulse natural. The following morning she gave her milk as usual.

What was the cause of this? was it atmospheric influence, or some poisonous substance accidentally taken into the stomach along with the food? Perhaps you will be kind enough to give me your opinion concerning the same, and you will much oblige

Your's, &c.

[I do not think that we can trace this disease to any atmospheric influence, or to any poisonous ingesta. It was some undefined cerebral affection, about the nature and cause of which we cannot arrive at any satisfactory conclusion.—Y.]

* I should have stated that the cow continued to purge a great deal until about 5 P.M.; but on the following day the discharge was almost natural. She has remained well to the present time.

A CASE OF NEUROTOMY.

By Mr. R. Davie, *V.S., Elgin.*

[We do not insert this case as containing any peculiar novelty, but as an interesting account of the good fortune of an old servant whose period of suffering is now, we hope, passed.]

The following operation, although a very simple one, is considered a dangerous affair in this part of the country. If you think this notice of it worthy of insertion in your excellent periodical, it is at your service.

The subject of the present case is a grey Irish horse, which has been in my possession for upwards of four years. I purchased him as an unsound animal, labouring under navicular joint disease and contraction of the off fore foot. I had often relieved him from pain, and had rendered him useful as a hack for saddle and harness, and a good hunter; but at last he defied all external treatment, such as cold and hot fomentations, poultices, standing in clay baths, rasping the hoof, firing, blistering, the expanding shoe, a run at grass, &c., and became useless. I then determined on trying the operation of neurotomy, which had the desired effect.

On the 27th of May last the horse was led from the stable to the riding-school, almost on three legs. I then had him cast, and properly secured, when I excised about an inch of both metacarpal nerves above the fetlock. After the incisions had been properly secured by sutures, and bandaged, I released him from the hobbles, and the patient walked away to the stable, free from all appearance of lameness. His recovery was as speedy as I could have desired. On the 7th of June he was put to regular work, both in single and double harness, only ten days after the operation, and the wounds not quite healed; and he has never since shewn any symptom of lameness.

THE CURE OF A COMPOUND FRACTURE OF THE LOWER JAW OF A PUPPY.

By Mr. H. G. Taylor, *Veterinary Student, Nottingham.*

On the 18th of August last, a retriever puppy, about six months old, received, while playing with a large mastiff dog, so severe a bite across the lower jaw as to completely fracture both sides of that bone. He was immediately sent to my father.

We found, on examination, that the anterior portion of it, as far back as the second molares, hung pendulous. On slightly depressing it, and looking into the mouth, we were enabled to see the four ends of the bone. There were several small loose pieces, which we removed, and also a couple of teeth ; having done this we washed the parts with tepid water, and gave him, previous to putting the fracture in a proper position, as much new milk and oatmeal as he could conveniently take, and endeavoured to keep the ends of the bone in approximation by a strip of leather covered with emp. adhesivum, and, over the whole, a bandage. In a day or two, however, he scratched this off, and I found that other means must be adopted.

I then applied, under the jaw, a leather muzzle, which was made in one piece, forming a leather splint, and made to buckle, with two straps over his nose and one at the back of his ears. This, being padded with tow, he could not get off. We kept it closely applied for a month, supporting him by pouring milk between his teeth, and injecting frequent enemata of milk and oatmeal, at the end of which time complete union had taken place.

I heard of him a few days ago. It would be difficult to detect that there had ever been a fracture, except by (and what is rather curious) a little elongation of the under jaw.

FROM MR. HAWTHORN, IN REPLY TO MR. PERCIVALL ON PRACTICE IN THE FORGE.

On reading the reply in this month's Veterinarian to the remarks made by me on the leading article of May, I thought at first, from the courtesy and conceding spirit manifested, that the matter might as well drop; but, on farther consideration, I am hardly satisfied to do so, as I think too much is made of the point on which Mr. P. and I differ in opinion.

We agree that the veterinary pupil or surgeon should be able to take off a shoe and to pare out a foot cleverly, and to put on a shoe in a temporary way. But Mr. P. thinks that a knowledge of horse-shoe making, and putting on in a permanent way, if not indispensable, is highly advantageous, and necessary to the finish of a veterinary surgeon.

I do not think so, but allow there is a degree of utility in such knowledge, as there is in many other kinds of knowledge, such as saddle-making, &c., and we all know that horses sometimes

get very troublesome diseases from bad saddles. The fact is, that both for shoeing and saddle-making there are tradesmen always at hand who can do these things better than we could; or if not at hand, it is the exception and not the rule.

I think the anecdote told at the end of the article in no way helps Mr. P.'s views; and if it had not been for this anecdote, I believe I ought not to have troubled you.

I cannot see how the setting on of the shoe made the practitioner a practitioner par excellence, "a practitioner indeed."

I think it would have been quite as professional, and quite as respectable, if the shoe had been left to the smith, and would have given as much satisfaction to the employer.

The comparison of the veterinary surgeon, in this case, with the blacksmith, seems to be particularly unfortunate. He "bit by bit examined it everywhere, the same as if he had been a farrier or a blacksmith himself."

Why, if he did not examine it better than the blacksmith, he did not do it so well as he ought. I never found a blacksmith who could examine a horse's foot as a veterinary surgeon can do and ought to do.

Can you depend on the smith, however intelligent, for searching for deep-seated corns, bruised soles, small punctures of the sole and frog, incipient sandcrack, fissures of the bars, &c. &c.? I never could.

The veterinary surgeon must take off a shoe and pare out a foot as well as a blacksmith; but he must *examine* a foot in a much more thorough and scientific way than a blacksmith can do, or, depend upon it, however clever he may be at shoeing, he will soon exhibit a lamentable want of skill in discovering the causes of lameness in the foot.

I know Mr. P. has but one object in view, viz. the advancement of our science, of which he is himself one of the greatest ornaments; but I hope he will excuse me in thinking that, on this subject, he wishes to put "too many irons into the fire."

Kettering, July 9, 1842.

ON THE PRESENT EPIDEMIC AMONG CATTLE.

By Mr. JOHN BARLOW, *Oak Farm, near Manchester.*

I LIVE in a part of Cheshire where there are a considerable number of cows kept for the purpose of cheese-making, and the stock is, generally speaking, good.

About the beginning of this year, a disease appeared in our neighbourhood, proving almost invariably fatal, the symptoms of which I will endeavour to describe.

The animal, for the first two days, appears dull, with slight cough; the appetite slightly diminished, and rumination carelessly performed; the breathing accelerated, and the pulse of an oppressed character, and increased to 80.

On the third or fourth day the breathing becomes more laborious, and each expiration is accompanied with a suppressed groan. The pulse has risen to 90, and is of the same character; the appetite and rumination begin to disappear, although in some beasts both continue until within a short time before death. The animal betrays great pain when struck upon the sides, or when pinched on the lower part of the throat. There does not, in the majority of cases, appear to be any constipation, nor are the bowels unduly relaxed. The secretion of urine is mostly limited, and is often highly coloured.

By the seventh or eighth day the symptoms are increased in intensity—the expired breath appears like a volley of steam issuing through some confined aperture—there is a large quantity of froth about the lips, which, falling on the floor, becomes, as it were, condensed, and saturates the litter, rendering it needful to change it often—the pulse still increases in frequency, but sadly loses force, and, in some instances, is almost imperceptible. The extremities now become cold—the animal stands with her mouth open—the breath, and other excretions, emit a cadaverous odour, and she dies about the ninth day. Some cases are more acute, and terminate in less than a week.

The appearances after death are these:—The lungs, more especially the right lobe, are enormously enlarged, and hepatized through their entire substance; indeed, the solidity is so great, that much force is requisite to cut through them. When an incision is made, the external part has the appearance of marble, feeling quite smooth, and, as I said, solid under the hand. When strongly compressed in the hand, the substance loses its consistence and separates into granules, similar to the boiled liver of any animal, a reddish viscous fluid exuding therefrom.

The pleural membrane does not exhibit much trace of inflammation, although the thoracic cavity generally contains as much fluid as the enlarged lung will permit.

In some cases the lungs are so enlarged as to fill and adapt themselves to the cavity of the chest, and will weigh seventy or seventy-five pounds.

The bronchial tubes are filled with the same viscous fluid,

which is also found in flakes throughout the trachea, as far as the larynx. No washing or maceration will separate it from the small air-cells and bloodvessels.

The heart seldom or never exhibits any diseased appearance connected with this affection, although in some few cases of pleuritic inflammation the pericardium occasionally shares therein.

The digestive organs do not exhibit any affection connected with this disease, excepting diarrhœa in the last stage.

The kidneys and mucous membrane of the bladder often display slight inflammation.

The treatment of this disease baffles alike the veterinary surgeon and the cowleech, the one being about as successful as the other.

At its first appearance in three cows, about two miles from my residence, the cases were taken for inflamed lungs: the symptoms were as described, and, the pulse appearing to justify it, the animals were each bled as much as they could bear. The sides were blistered; setons inserted on them, and on each side of the spine, which exhibited uncommon tenderness.

Sulph. magnes. ℥vj, digitalis ʒij, were given twice daily until the bowels were considerably relaxed. These means, however, did not in the least mitigate the symptoms, and on the third day they were bled again; but from three to four pints was as much as could be abstracted without the animal falling. Digitalis, pulv. verat. alb., ant. tart., potass. nitr. were given largely, but the symptoms continuously became more aggravated, and all died, one on the eighth and the others on the tenth day.

Shortly afterwards other cows rapidly sickened, not only within a short distance from these, but throughout the country; some farmers losing from six to ten in the course of a month or six weeks. One farmer has lost thirteen, who lives upon a fine dry farm, five miles on the Manchester road from Congleton; another, half-a-mile distant, has lost eight; another, six; one farmer, on the estate of Sir Harry Mainwaring, in Peovor, Cheshire, has lost twenty; many who kept fewer have lost in proportion.

The treatment which has by me been found most successful is extensive counter-irritation, avoiding bleeding if possible, and, at the very commencement, saturating the system, as far as safety will admit, with mercury—calomel ʒj, opium ϑj, twice daily.

If by the fifth or sixth day there is considerable exudation of a thick yellow matter from the nose, and the pulse is firmer but slower and the breathing less oppressed, the animal will slowly recover. But after fairly putting to the test bleeding and seda-

tive medicines, I have hardly saved a beast, while, by the other treatment, I have occasionally succeeded. In two cases which occurred lately, where the pulse was very weak and not so quick as usual, the treatment of the case was successfully pursued with tonics and hydriodate of potash.

I have trespassed too long already on your valuable time, and should be glad to elicit from you, or any other gentleman, the means which might prevent or cure this disease (if curable), as its ravages still continue.

Notwithstanding the above heavy losses, the infected animals were separated early.

I remain, &c.

EFFECTS OF MERCURY ON HORSES.

By Mr. W. Percivall.

Is it not somewhat surprising that a substance which has been in universal use, in human medicine, from the earliest ages down to the present time, and with the most influential and beneficial results, should, in the estimation of most veterinarians, appear of so little service in their practice, that they would care little, perhaps, about losing it altogether out of their pharmacopœia? One cause of this has been the notion imbibed at College —under the late Professor Coleman—that neither mercury, nor opium, nor antimony, &c. evinced any such effects when given to a horse as they did when given to a man; for whatever doctrine a young practitioner starts with, it takes, in general, a long time before he finds himself in a situation to pronounce upon its soundness or veracity: indeed, some from want of opportunities, and others from want of inclination or industry, to test it, never disencumber themselves of the errors it contains until their eyes become opened by the published contradictions of others. Another reason why mercury has not got into much repute in veterinary practice is its uncertain and deleterious operation; though this is not greater among horses than men. But, said Professor Coleman, "you cannot salivate as you do a man; and if you happen to effect this, you run a risk of starving the horse to death." In respect to these points, farther experience has convinced me that there is not that uncertainty about affecting the horse's system with mercury that appears generally supposed; that his system can be mercurialized in a much shorter time than is commonly believed; and that to insure the good ef-

fects and beneficial operation of the mineral, it is by no means necessary that it should be given to an extent in order to produce salivation. It may be added to what has been already said, that a third reason for mercury being thought slightly of by the veterinarian is, in point of fact, the little benefit derivable from its administration, and the few diseases in which it seems required, or which cannot be cured as well without it. To this I would, by way of answer, say, that as yet we know too little of what may be effected in our practice by mercury—we have made far too insufficient and too imperfect trials of it to, at present, hazard much opinion of its utility.

There has been a good deal of variety of statement about the influence of mercury in its purely metallic or liquid form. A vulgar notion prevails, that, if you administer the silvery liquid to a man or to an animal that has a stoppage in the bowels, it will, from its subtle, slippery, insinuating properties, find its way through the obstructed canals, and eventually prove the means of rendering them pervious and traversable again; and it has been asserted that we might, in the metallic form, exhibit almost any quantity of it, it being devoid of medicinal power. By others, however, this has been contradicted, and, on the contrary, they say it has proved poisonous. Though the former of these appears like the general rule, the latter being the exception, still, both statements are reconcileable on the explanations afforded by chemical inquiry —that, in some instances, the mercury meeting with oxygen within the alimentary canal, became oxydized, and thus had its medicinal and poisonous properties developed.

In its active forms, as far as observation has hitherto carried us, all animals appear subject to the influence of mercury. The various public hospitals and dispensaries in large manufacturing towns shew how injurious to the constitution even the fumes of mercury are; and barometer makers, and gilders, and looking-glass silverers, and men working in mercurial mines, are continual sufferers. They become the subjects of that sad disease, called the *shaking palsy*, and in too many instances droop, melancholy objects! into their graves. In the *Edinburgh Medical and Surgical Journal* we find the following:—"In 1810, the Triumph man-of-war and Phipps schooners received on board several tons of quicksilver, saved from the wreck of a vessel near Cadiz. In consequence of the rotting of the bags, the mercury escaped, and the whole of the crews became more or less affected. In the space of three weeks 200 men were salivated, two died, and *all the animals*, cats, dogs, sheep, goats, fowls, a canary bird—nay, even the rats, mice, and cock-roaches, were destroyed."

Of the Preparations of Mercury, all appear to operate

on animals with more or less effect: at least, the only dubious of power are the *sulphurets;* these Orfila, indeed, regards as powerless.

The most active and virulent of its compounds is what commonly goes by the name of *corrosive sublimate*, the *hydrargyri binoxydum* of the last *London Pharmacopœia.* Applied externally it is a caustic of great power; and is capable, when given internally, even in very small quantities, of exerting very great influence in the animal system. From its solubility and extreme diffusibility in large quantities of water, it may, by proper management, be very commodiously administered to the horse in the water given him to drink: his extreme delicacy of smell may lead him at first to suspect something in his drink; but by keeping him for some hours without other water, in general, after a time he takes it, not seeming to care about the admixture. I have in this manner tested its efficacy in ophthalmia, and in glanders and farcy: I cannot add, with any decided benefit in either case.

A brown gelding having incipient glanders, and who had previously been taking large doses of cinchona without producing any effect, either on the constitution or the disease, was, in consequence of becoming decidedly glandered, submitted to the operation of mercury. He commenced with taking hydrarg. binoxydi gr. x, which by degrees was augmented until the large dose of ʒv was given. The horse now, for the first time, left part of his food unconsumed and his pulse became accelerated. With four days' of intermission of medicine he recovered his appetite. The next dose administered was the enormous one of ʒvj, under the effects of which he succumbed. The following morning he shewed alarming symptoms of illness, expressing great pain, frequently lying down and rising again, and being without perceptible pulse; shortly after which a most profuse perspiration broke out upon him. He survived, however, until the next day.

Intense inflammation had seized the lining vascular membrane of the stomach: large portions of effused coagulable lymph adhered to it, and the lymph had a reddened appearance, as though it had already had vessels shooting into it; which was proved afterwards to have been the case. The cuticular coat exhibited no change; and there was but a slight blush of inflammation upon the internal surface of the intestines. Altogether, this horse took, and within twenty-four days, the astonishing quantity of four ounces and twelve grains of binoxyde of mercury.

Red precipitate, as it used to be called, was given to three horses having glanders, in doses, at the beginning, of ℈ij daily; and this dose in a few days was augmented to ℈iv. On the third of taking

this last quantity, one of the horses refused his food, and soon after was seized with violent diarrhœa, and this continued four days on him, at the expiration of which he died. The stomach proved in a high degree of inflammation; the intestines, also, in an inflamed condition, but not to the same degree. The second horse continued the same doses of medicine four days longer, and then experienced a similar attack in the bowels, but less severe. This one also had his mouth made sore, and became salivated, for he cudded his hay and discharged freely saliva from his mouth. The mercury was now discontinued; and, after the subsidence of the bowel-attack, some aloetic medicine was given, with a view of assisting the discharge of the mercury from the system. The horse recovered from the effects of the precipitate, and was subsequently destroyed on account of glanders.

The third horse continued the medicine thirteen days longer than the second, taking regularly his four scruples daily. He was then attacked similarly to what the others had been; not, however, so much in the bowels as in the mouth and salivary glands. He also recovered from the destructive influence of the mercury, but afterwards was put to death on account of being incurably diseased.

[To be continued.]

ON THE EPIZOOTIC DISEASES OF CATTLE.

By Mr. Youatt.

[Continued from page 410.]

In the latter part of 1839, a disease, or rather a combination of diseases, began to appear among cattle in various parts of the United Kingdom. Even in its earliest stage it was composed of maladies whose seat was far distant from each other—whose symptoms were altogether unlike, and yet that were, sooner or later, inseparable and fatal companions. The mouth and the feet, the organs of assimilation and of respiration, so different in their character and in their management, were equally involved*.

In May 1839, according to Mr. Beeson, of Amersham, the

* I am truly grateful to very numerous friends who have kindly furnished me with sketches of the rise and progress, and most successful treatment, of this malady, and by whom I have been enabled to throw into some form and order that which would have otherwise presented one chaos of endless confusion. They will please to accept my cordial thanks.

disease began to be prevalent in his neighbourhood, and, some months before, several of the cattle had been somewhat tender-footed and tender-mouthed—in fact, "foul in the foot," and "blain" had been more than usually prevalent, although they had not assumed any virulent character.

Mr. Wardle, of East Sheen, informed me that, in May and June in the same year, an epidemic, affecting both the feet and the mouth, existed in his neighbourhood, but presently disappeared. In the months of August and September in the same year it broke out again, and continued to appear at uncertain intervals until the summer of 1840, when it became prevalent in almost every part of the country.

In January 1840 it was gradually stealing over various parts of the kingdom.

Mr. Habin states that, on the 25th of February 1840, a lot of Devonshire cattle were exposed for sale in Chichester market, the greater number of which were labouring under the disease.

At Aylesbury, it came under the observation of Mr. Lepper early in February, but he had heard of its previously existing in the neighbourhood more than three months before that period. It had occurred at that time in the practice of Mr. Dickens, of Kimbolton. In the same month it visited Gloucestershire. Mr. Tombs gives the following account of its appearance:—Two barren heifers, bought at Tewkesbury fair, were put into a yard with twenty-one milch cows. It was not at first perceived that they were in the least degree unhealthy, but it soon appeared that they were so; for not only all the milch cows became infected, but they communicated the infection to one bull and five feeding cows tied up in stalls adjoining to the yard. Three sucking calves also caught the disease, and twenty pigs; none of them, however, were lost. When attacked, the cows were in a yard, living on hay and straw, and the weather was cold and dry. In the course of that year one hundred and sixteen cattle thus diseased came under the cognizance of Mr. Tombs, not one of which were lost; but among those that were neglected, or badly treated, several died.

Mr. Plomley, of Maidstone, says that on the 18th of February it shewed itself in a dairy of twenty cows, all of which had been previously in good condition, and fed on hay and grains.

An extraordinary account is given by Mr. Holford, of Northwich. He says that, at the beginning of the year 1840, a cattle-dealer brought several valuable cows suitable for the dairy from some of the adjoining counties. He brought them home, not suspecting in the least that any thing had been the matter with them. In a day or two afterwards he took them to a fair seven

miles from Northwich, and, from the superior appearance of these cows, customers were soon found for the lot. Of necessity they were driven to various parts of the country; but, strange to say, the stock of all the parties that bought cattle out of the drover's lot immediately, or within a day or two, began to have the epidemic. In one instance, it was considered too far to drive the new purchase home, and the owner ordered her to stop for the night at his brother-in-law's farm. The consequence was, that this gentleman's stock was, in a few days, suffering from the malady. The disease, for a considerable length of time, was confined to the parties who purchased of the drover, but by degrees it spread fearfully around, and intermediate farms on which none of these cattle had been received, seemingly became empoisoned, and all the cattle on them became diseased.

Mr. Farrow, of Ash, in Durham, gives a similar history:— "A farmer purchased a calf in the market, and on his arriving at home, in order to place the young animal in a warm and comfortable situation, he took it into the cow-house among his cows. Perceiving, however, that the young animal was unwell, it was quickly removed to another place, where it soon died. On the third day afterwards, the cow that stood next to where the calf was placed took the disease. The adjoining one to her was affected three days after that, and, in less than six days, all who were in this house were affected with the complaint. The rest of the cattle on the farm were kept separated from these, and escaped; but a pig in the same yard broke from his confinement, and got to the dunghill, and ate some pieces of turnip which were left by the diseased cattle. On the third day afterwards he was affected, while all the others escaped. This, then, seems to be a proper point from which to start in our inquiry into the nature of this malady.

That it is a highly infectious disease is already sufficiently proved. In by far the majority of cases there can be no doubt on this point; and the history of the calf, just related, would completely settle that question. No connexion has yet been traced between the disease and the pasture or the soil on which the animals had been fed. It has been equally prevalent and equally destructive whatever has been the nature of the soil or its productions. It appears to have been little influenced by the temperature of the atmosphere. It does not appear to have been connected with any typhoid or other disease to which the human being is subject. It is caused by some atmospheric agency, of the nature of which we are ignorant, and it is rapidly propagated by contagion.

There is constant itching of the skin at an early stage of the

disease, probably on the day before the more decisive symptoms appear, and the animal is continually rubbing and licking himself.

Let us suppose a herd of cattle in the open fields. They were, or were supposed to be, in perfect health. The owner takes his round among them, and he finds one or more dull—disinclined to move, creeping under the hedge, or seeking some sheltered spot; and there, perhaps, they stand with the eyes sunken, or closed, or weeping, shaking and trembling to a greater or less degree. The coat is rough—there is evident hidebound; the legs are closer together than in an animal in health, and the back is bowed. If the hand is pressed upon the loins, the animal shrinks. The beast may be ruminating, but it is in a very careless way, and he is far from enjoying his meal. The breathing is generally hurried, and the pulse is increased almost to 70, or even beyond that number. The owner watches him more closely, and he generally finds one or two symptoms, or perhaps both of them. There is an evident increase of saliva. It is dropping from the mouth of the animal; it hangs about the lower lip, and the beast is making frequent efforts to swallow it. There is a peculiar smacking noise of the lips, which being once heard, will not be forgotten. If the mouth is examined, large vesicles or bladders, red, livid, purple, are found on the side or base of the tongue, or almost covering its upper surface. They break, and a fœtid bloody fluid exudes. The whole of the face becomes enlarged, and sometimes considerably swollen, especially about the lateral and inferior portions of it. The front teeth are sometimes very loose.

We here trace some resemblance between this affection and the *Blain* or *Glossanthrax;* but there is another symptom, and a decisive one, in connexion with this disease. The animal is usually found standing, and there is a degree of stiffness and altered action in the legs, yet they are in almost continued motion. It is the shifting of the position from extreme pain. There is "foul in the foot" as well as "blain," and the pasterns become swelled, and the hoof separates from the foot. The local pain is excessive, and there is general and extreme fever. It is uncertain which of these evils takes precedence.

Connected with them is usually a third evil, and as painful as either to the animal, and destroying the last remains of strength, —inflammation of the udder—garget—occasional removal of the whole cuticle of the udder. When these three evils combine, this epidemic in cattle is too firmly established, and too often fatal. The cows which were the best milkers, and in full milking at the time of attack, generally experience the disease more severely than others.

Costiveness should also be mentioned as a frequent or general

attendant on this complaint, and also great prostration of strength —the animals being sometimes scarcely capable of walking.

The post-mortem appearances closely resembled those presented in animals that have died under bronchitis. The bronchial tubes were filled with a frothy mucus, and the poor beasts died from suffocation.

Mr. Mayer very properly characterises this disease as "a highly contagious inflammatory fever, possessing an erysipelatous type, and affecting particularly the mucous and secreting tissues*."

Mr. Karkeek says, that "it is one of those contagious diseases which is communicable both by contact and without it, like smallpox, the matter of which, when brought into direct contact with the body, will produce this disease; or when suspended in the air, or coming in contact with the body, is capable of being thus propagated."

Professor Dick gives a favourable account of the epidemic north of the Tweed. Happy would it have been for many of the English agriculturists had the symptoms been of the same character in the south. He says, "I am glad to be able to state that the murrain is a less formidable disease than has generally been represented; at least, such has been the case with it so far as it has fallen under my notice. It appears to be a slight influenza or catarrh, attended with blisters about the nostrils, upper lip, tongue, and gums; sometimes, also, upon the teats and about the heels, and especially at the interdigital space in front, above, and between the hoofs.

"The blisters break in about twenty-four hours. In the mouth the cuticle peels off, but is reproduced in about three or four days. On the other parts, the serum contained in the blisters escapes. and a dry scab is soon formed, which, when the animal is properly treated, falls off and leaves the skin healed beneath, and the animal is quite well in about a week. There is little if any fever, the pulse commonly ranging from 50 to 60. The respiration is not affected, but the appetite is considerably impaired; but, apparently, more from the state of the mouth than from any functional or structural derangement.

Mr. Hawthorn, of Kettering, says that in some few cases there was ulceration of the base of the horns similar to the coronet, and ulcerations of the alæ of the nose so violent, that the septum has

* Mr. Mayer is perfectly correct, when he says that "this disease is one *sui generis*, and, so far as his reading and observation go, has never prevailed in this kingdom before; therefore, to style it the murrain or blain is highly incorrect, and encourages very erroneous notions both as to its nature and treatment."

been completely torn through by the man's fingers who held the beast.

Mr. Hayes, of Rochdale, relates that, soon after the ulceration of the feet, vesicles appeared on the upper gums, the tongue, the lips, and sometimes the nose; and that in post-mortem examinations he had observed, in many cases, these vesicles extended to the larynx and down the œsophagus. This, he thinks, is the cause of the difficulty of swallowing which we sometimes see. He adds another very important observation, that this disease sometimes terminates in congestion, either of some of the internal viscera or an external part. This frequently appears near the udder, hip, stifle, thigh, knees, and other joints, in the form of large indolent tumours, which, on an incision being made into them, are found to contain coagulated blood in a considerable quantity. In three weeks or a month this blood dissolves into a brown, thin, sanious fluid, which, on opening the tumour, discharges itself, and readily heals by the common means.

Mr. Silvester, of St. Albans, has observed that this disease is usually ushered in by a fit of shivering. The coat stares, and the animal is dull and loath to move. He is frequently shifting his position, holding up one leg and then the other, as if there was something in the feet; the bowels are generally constipated—*the pulse not often increased in number—sometimes weak, at other times full and soft, but never hard.* The cold fit passing away, the coat assumes its natural appearance; the saliva flows from the mouth; blisters quickly form on the gums and the tongue, and which quickly break, leaving foul and unhealthy sores.

Mr. Copeman, of Walpole, thus describes the symptoms of this epidemic:—The pulse, 60 to 80, is soft, feeble, and indistinct; respiration much embarrassed, with a frequent, short, sore, suppressed cough; the Schneiderian membrane and tunica conjunctiva paler than natural; the cuticular membrane of the mouth covered with a gluey, ropy kind of matter; appetite impaired, and in a few cases wholly gone; great restlessness, as quickly followed by equal prostration of strength; the slightest exertion producing great excitement of the system; bowels generally natural, but in some cases more relaxed than in health; not the slightest œdema of any part of the system; and slight injection of the mucous membranes.

Mr. Corbett, of Worcester, states that, while cattle of all kinds have suffered from the attack of the epidemic, milch cows have felt it most severely. In some instances, soreness of the mouth has been the first symptom; and, in others, the feet have been primarily or principally affected. The pulse has indicated weakness rather than strength. On the whole, it has not proved

difficult to combat, and comparatively little loss has been sustained.

Mr. Harrison states, that lameness of one or more feet was the primary symptom.

Mr. Heanley, of Newcastle, describes the symptoms as, loss of appetite—a dull sunken eye—the drivelling of saliva from the mouth—a sonorous sucking of the tongue—low fever—and enlargement of the glands of the throat, apparent in the mouth and chiefly in fat and heavy animals. The fatter the animals, the greater extent of ulceration.

Mr. Holford, of Northwich, states the primary symptoms to be loss of appetite, swelling of the eyelids, lips, and nostrils—vesicles on the tongue and roof of the mouth—total or partial cessation of the secretion of milk—yellowness of the membranes of the eyes, nose, and muzzle—the mouth primarily affected, and the feet secondarily, yet this not uniformly the case. Where only one of them is affected the treatment is most successful.

A very interesting account by Mr. Hutchinson must be reserved for a future but not distant time.

Messrs. Plomley state, that the mouth is generally affected before the feet; but, sometimes, they both suffer together.

Mr. Peech, of Sheffield, kindly favoured me with the following account:—"The deaths have been few in number, and when strict attention has been paid, the loss of condition has not been great. The common opinion is, that the disease has been communicated from one animal to another; but I confess that I have seen many instances in solitary situations, where there was no chance of communication or contact, and the disease has made its appearance. I will mention one.

"Mr. Hall, of Kiveton, near Sheffield, bought a diseased cow in Rotherham market, and placed her into a yard with a bull-calf that he wished to be suckled by her. Two days afterwards they were turned into a pasture with three heifers in calf. Neither the heifers nor the calf took the disease; although all the other stock, including sheep and pigs, were affected, having never been near the abovementioned cow. With regard to the earliest symptoms, I think that a skilful veterinarian would detect low fever, with a deranged state of the digestive organs. The mouth and feet are cases of metastasis."

Mr. Plomley, of Maidstone, thus writes:—"The symptoms are trembling—staring of the coat—dulness of and discharge from the eyes—loss of inclination to food and rumination—febrile pulse—breathing slightly hurried—bowels constipated—fæces of a dark colour—nose dry—breath offensive—the mouth generally affected before the feet."

Mr. Rushton, of Dudley, gives a similar account, with the addition of strangely variable heat and cold—pulse about 50, but not of an inflammable character. The second day, tears running down the cheeks—stiffness of the whole muscular system—pulse 60, but feeble—respiration accelerated to 20 or more. In a few days anasarcous swelling of the legs or abdomen.

Mr. Joseph Sewell, of London, does not believe the disease to be so contagious and infectious as some have asserted. He regards some atmospheric influence as the agent principally concerned; but there is far more predisposition to be affected in some animals than in others. He has generally seen acute soreness about the chest—great dislike to move—deep and sometimes slow respiration—the pulse feeble and slow—a wheezing sound uttered, similar to that in bronchitis. In a more advanced stage the eyes become closed, the legs swollen, and œdema extending along the belly.

Mr. Strickland thus writes from the Isle of Wight:—The disease is highly infectious: few escape from its attack, which commences with swelling round the upper lip and nose—heaviness of the eye—drivelling from the mouth, tongue, and gums—and lameness in one or more feet.

The subject shall be resumed in the next Number.—Y.

AMPUTATION OF THE PENIS OF A HORSE.

By R. Bailey, *Esq.*, *V.S.*, *late* 1*st Reg. R. I. Lancers.*

On the 22d June last, I was called on to see a bay cart-gelding, about ten years old, belonging to Major Thornton, of Armagh, and working on his farm, at Tullyards, near that city, which was unable to retract his penis from an enlargement at the end of it. I found him labouring under an extensive scirrhus of the glans penis and prepuce; the penis dangling between the hocks, and presenting an exceedingly disgusting spectacle. The animal was very low in condition, and I was informed that the disease had been going on for a period of two years.

Seeing no prospect of doing good but by amputation of the part, I recommended that course to the Major, who consented to the operation, which I performed on the afternoon of the same day. Having cast the horse, I passed a ligature about four or five inches above the scirrhus (which allowed of an assistant more securely grasping the stump that would be left), and then proceeded to abscission of the extremity by a sweeping stroke of

a long bistoury through the substance of the penis, about three inches above the affected part.

After due application of the cautery, I removed the ligature; and, hæmorrhage from the larger vessels being arrested, I allowed the horse to rise, considering that he would be rather benefitted than otherwise by the slight loss of blood likely to ensue from the small vessels of the prepuce. On rising, he staled copiously, which appeared to give him great ease.

25*th*.—All was going on well—no disturbance of the system. The animal passed about a gallon of urine while I was with him:—slight swelling about the sheath.

28*th*.—Still improving—swelling abated.

July 5*th*.—The wound cicatrized—all swelling has disappeared—and I have allowed him gradually to return to his usual diet and work.

From the time of the operation there was no difficulty in passing his urine; indeed, he must have felt great relief, as previously it was frequently dribbling from him.

12*th*.—Going on well—at work.

Caledon, July 12th, 1842.

MR. FRIEND AND THE GOVERNORS OF THE ROYAL VETERINARY COLLEGE.

[We most unwillingly insert the following document; but Mr. Friend has a claim upon us and upon the profession, which we dare not to resist. It is the copy of a letter which he sent to the Governors of the College.]

Walsall, June 28, 1842.

To the Governors of the Royal Veterinary College, London.

Gentlemen,—In the *Times* newspaper of the 3d of June, I read an advertisement from you, offering the situation of Professor of Cattle Pathology, &c. in the Royal Veterinary College of London, to public competition among graduated veterinary surgeons—testimonials, &c. to be sent in to the College by twelve o'clock on the 18th.

Conformably with this, I applied to you, as I believe others did also; and in *Bell's Life*, of Sunday last, I saw an advertisement from Mr. J. B. Simonds, of Twickenham, offering to dispose of his private practice, in consequence of being appointed by you to that office. This induces me now to address you in the cha-

racter of a rejected, but certainly not a disappointed candidate, for reasons which will appear in the course of this letter.

I do not pretend to quarrel with your perfect right to give the situation in question to Mr. Simonds; but I contend that it was unjust and ungenerous to make us—the unsuccessful candidates—the victims to your heartless mockery of a competition among graduated veterinary surgeons for the professorship, simply to give the colouring of fairness to your proceedings among those who are not aware of the pleasant farce enacted in the appointment.

I have called it a farce: I will give you my reasons for doing so.

In the first place, the advertisement was such, that I am persuaded that not one veterinary surgeon in twenty whose attention was not immediately directed to it would ever have known of it at all in time to apply.

I take it for granted, that if it had been meant in reality to be, as it professes to be, open to competition to all regularly graduated in the profession, means would have been taken effectually to make them aware of this fact. The advertisement in question most decidedly, and I cannot help believing most designedly, did not do this. I, for one, should have known nothing of it, if a gentleman in London had not written to me to direct my attention to it. When the authorities of the College have had any real intention to apply to the graduates of that Institution generally, they have usually done this by circulars addressed individually. Why was it not done on this occasion? or, if this had been thought too much trouble, why was not the advertisement inserted in THE VETERINARIAN, the only professional periodical among us. Was it of such stringent necessity that this important office, which has been so long in consideration, should be advertised and filled up in less than one month? or was it, as I shrewdly suspect, designedly hurried over, that THE VETERINARIAN might not give it that publicity which the affair really merited? Your advertisement coming out immediately after its publication on the 1st of June, and the election taking place before it could again appear, seems to me strongly to favour this opinion.

This, the first act of the farce, speaks for itself.

I went up to London with my credentials, and, on my arrival there, I learned from every quarter that *the appointment was most certainly intended for Mr. Simonds;* and my reception by the Professor, when I presented my testimonials, most fully confirmed this report; and I can prove that, on my return home before the day of election, I told my friends that such was the case.

I do not know the nature or extent of the testimonials presented by the other unsuccessful candidates, nor should I take the

liberty of bringing their affairs before the public if I did; I must, therefore, restrict myself entirely, on this part of the subject, to my own. I presented you with testimonials of the highest and most flattering character to myself, from every surgeon and medical man in this place, and also from one of the most popular authors of the present day on the Horse, Cattle, and Sheep, and many years Editor of THE VETERINARIAN. I referred you, at the same time, to many works written by myself on anatomical, pathological, and physiological subjects of greater variety, and certainly more new or controverted, than, perhaps, were written by any other veterinary surgeon during that time, not strictly an author. I also referred you to many testimonials to my researches and ability in the same work, written by practitioners of high standing in the profession, personally strangers to me, and who could have been influenced by no motives at the time in the opinions so stated, but supposed merit in the articles in question. My College testimonials I noticed but briefly, as you are well aware that such as are given for the time being, are, as a matter of course, in the possession of every graduate.

Are you prepared to shew to the world that the gentleman you selected on that occasion did produce testimonials of a higher character, and more to the purpose than these referred to? Or did you, in the prosecution of the high trust that you have taken upon yourselves, to provide a fit and efficient teacher to the future aspirants to veterinary instruction—a trust so intimately connected with the well-doing of an important part of the property of this country—did you, I say, think it worth your while to refer to them at all? Did you, in fact—for I feel constrained to be plain with you—read any one of them?

I am debarred, on every account, from making use of the testimonials presented by the other competitors, or I might possibly put more important questions to you than these. I assure you, that when I applied to you in answer to your advertisement, I had no idea that the simple reading of the testimonials sent in would lead to a final decision on your part. I supposed that, as one important situation which the successful candidate must occupy being that of a lecturer, you would require a public test of the abilities of the several candidates in that department. I may have been in error, however, as to my estimate of your powers of discrimination in realizing merit at first sight.

I must leave no chance of misunderstanding here. With regard to Mr. Simonds, I never had the pleasure of an introduction to that gentleman but once; and the result of that interview was such as to leave an impression on my mind highly

favourable to him. I do not presume even to hint that he is not perfectly qualified for the situation he has now obtained. I object only to the circumstance of others being called upon to compete with him when no fair competition was intended. At least, such is the inference I arrive at from a calm and frequent review of the leading facts of the case.

The second act of the farce being now over the dramatis personæ are summarily dismissed, and no one is called before the curtain but the fortunate protegé of the managers. I, for one, conceive I have great right to complain of the manner in which this was effected. You had not even the common courtesy to inform me in any way of the ill-success of my application to you—a want of attention which would be deservedly complained of by an applicant for your groom's or footman's situation, if he had applied in answer to your advertisement; and I judge, as a matter of course, that the other competitors were treated in like manner. I cannot offer you any apology, Gentlemen, for addressing you thus publicly. Your own want of courtesy has brought this upon you, and has left me no other alternative. For my plainness only do I conceive that I have to answer, and most cheerfully do I hold myself responsible for it. Let me advise you, when next you take upon yourselves to execute so important a trust, to grant "a clear stage and no favour."

I have the honour to be,
Gentlemen,
Your obedient servant,
E. A. Friend, Veterinary Surgeon.

THE VETERINARIAN, AUGUST 1, 1842.

Ne quid falsi dicere audeat, ne quid veri non audeat.—Cicero.

We have received two somewhat angry letters from friends whom we sincerely and highly esteem, blaming us for admitting into our Journal a paper like that from Mr. Bull, which appeared in our July Number. We expressed ourselves strongly in the few observations that we made on that epistle, and we are perfectly assured that the introduction of it will be highly ser-

viceable to the cause of veterinary science. It will help to establish a broad line of distinction between those who have founded their future practice on the only true basis—the deep and honest study of the principles and practice of their art—and others who are afraid or ashamed to admit the increasing light of day—between those who have so far acquired a knowledge of their profession as to shrink not from encountering the terrors of the examiners' board, and who are honourably and openly contributing to the advancement of their art, and others who shrink from this ordeal, who envelope themselves in a cloud of mystery, and contribute not, in the remotest degree, to improve the science to which they ought to be devoted.

We confess, that we were doubtful at first whether we should admit the observations of one who appeared to be a stranger "to the common courtesy of expression"—for such evidently Mr. Bull was; but a little reflection told us, that he was, to an extent of which he was not aware, striking at the root of the old school, and uniting every one who was a friend to veterinary science in the earnest anxious effort to place it in the situation which it ought to occupy.

Are our two friends satisfied? They know in what way best to convince us that they are.

Connected with this is a proceeding of our veterinary brethren at Glasgow. They had probably been subjected to annoyances similar to those to which our attention has been directed; and we find in *The Glasgow Constitutional* the following announcement:—

"*Important to Owners of Horses and Cattle.*

"We, the undersigned, the *only* regularly qualified veterinary surgeons, resident and practising in Glasgow, feeling ourselves aggrieved by certain parties setting themselves forth as veterinary surgeons, and having their names on their signboards, and published in the city directory as such, who have never either studied at, or received diplomas from, any veterinary college, consider it due to the public, as well as ourselves, to make this fact known—firstly, to the public, that they may not be imposed upon by parties ignorant of the profession; and, secondly, as regards ourselves,

after a laborious and expensive course of study of the anatomy, physiology, and pathology of the horse and other animals.

"Archd. Sinclair, 86, Maxwell Street.
"Wm. Anderson, 32, Great Clyde Street.
"Alex. Lawson, "John M'Lean, } 53, Maxwell Street.
"James Moore, 44, Hope Street."

The Editor of the Glasgow paper enters fully into the views of our friends, and makes the following observations on the advertisement:—

"As we have always set our faces against quackery, in whatever shape or form it may appear, we willingly call the attention of our readers to an advertisement in our columns of to-day, emanating from the veterinary surgeons of this city, complaining of certain parties assuming that title, and setting themselves forth to the public as such, who have no right thereto. We hold the profession of veterinary surgery, although yet comparatively in its infancy, to be one of great public utility, as every horseman must be aware of the gross malpractice to which that noble animal the horse has been subjected for a long time by ignorant and conceited quacks. The public ought to be on their guard in employing only such to treat their horses and cattle as are qualified veterinary surgeons, as they may rest assured the diseases to which they are subject are as intricate, and require as much nicety in their treatment, as those of ourselves."

The uncertainty whether the just claims of the profession will be attended to, at least at present, by the ministry, renders such measures as our Glasgow friends are adopting pardonable at least, or, we should be inclined to say, perfectly justifiable. This is a subject deserving of very serious consideration: we solicit the opinion of our friends with regard to it.

The appeal of Mr. Friend deserves very serious consideration. To use the mildest terms, the conduct of the powers that are at the Veterinary College is exceedingly questionable.

We thank Mr. Barlow for his account of the *present* epidemic among cattle. So far as we have had the opportunity of examination, his description of it is accurate: may we solicit our friends to favour us with their account of it. It is very materially different from that the history of which we have been attempting in the present Number. Any errors that we have committed with regard to the epidemic of 1840 we shall be most happy to be enabled to correct.

We would once more remind our readers, that the subscription to the testimonial to Mr. Shaw, the Editor of the Mark-lane Gazette, and Farmer's Magazine, will speedily close. A more ardent friend to the veterinary profession does not exist. We shall be most proud to be the means by which any contributions to his testimonial may be conveyed to the Metropolitan Committee. Y.

VETERINARY JURISPRUDENCE.

Orbell *v.* Walmsley.

This was an action upon the warranty of a horse purchased by the plaintiff, who is an extensive horse dealer at Romford from the defendant, a large farmer at Bridlington, in Yorkshire.

Mr. Earle, with Mr. Petersdorff, was for the plaintiff, and Mr. Whitehurst for the defendant.

It appeared that the animal in question, which was described as a grey horse of a remarkably showy description, was purchased by the plaintiff from the defendant, with several others, on the 17th of August last, for £55, under a written warranty of soundness, the horse never having been worked or used before the purchase. In the course of a few days after the arrival of the horse at Romford he was sold by the plaintiff to Mr. Dixon, with a warranty, for £85, and in a few days Mr. Dixon reported that the animal was unsound, and desired to return him. Upon the suggestion of the plaintiff, Mr. Dixon had the horse taken to the Veterinary College, at Camden Town, where he was carefully examined on the 7th September, and Mr. Spooner, one of the Professors of that establishment, declared that the horse exhibited a very decided case of bone spavin, which would produce lameness whenever he was worked hard. The plaintiff communi-

cated these facts to the defendant, whom he met at a fair in the country. What passed between the plaintiff and defendant at this interview was one of the matters in dispute; but it appeared that the plaintiff undertook to try and sell the horse again as sound. The plaintiff accordingly sold the horse a second time to a Mr. Gray, a horse-dealer, in Oxford Street, for £85, and Gray returned the animal shortly after as unsound. The defendant having refused to take back the horse, he was ultimately offered to Dixon, the first purchaser, for £44, and is now in Dixon's possession. The defence was twofold—that the animal was sound at the time the defendant warranted, namely, on the 17th of August; and even if the animal was unsound, that the plaintiff had subsequently agreed to accept £23 as a compensation for the unsoundness of the horse in question, and a black mare which the defendant had sold him, and which turned out to be a roarer. In support of the defendant's case, three persons were examined, all of whom were well accquainted with the horse before the sale, and they all testified that he had never exhibited any symptoms of unsoundness, and was admired at agricultural meetings and fairs in Yorkshire. Against this testimony the plaintiff relied mainly on the evidence of Mr. Spooner, who said that the disease must have been existing some months before the 7th of September, when he first examined the horse. The payment of £23 by the defendant to the plaintiff subsequently was admitted; but that sum was said to have been paid exclusively in reference to the unsoundness of the black mare, and not of the horse in question.

The Jury, after retiring and considering the matter for some time, returned a verdict for the plaintiff.—Damages £27.

[Although the next trial is but indirectly connected with the veterinary profession, there are few of our readers who will not feel some interest in the perusal of it. It increases the letter-press of the present number, but not the expense of it to any of our friends.]

THE GURNEY AFFAIR.

COURT OF EXCHEQUER, Saturday, July 2.

(Sittings at Nisi Prius, before Chief Baron Abinger *and a Special Jury.)*

Thornton *v.* Byng and others.

The court was crowded at an early hour this morning to hear the trial of this cause, which arose out of circumstances connected with "the Gurney affair." Many of the leading men on the turf were present, among whom

we recognized on the bench the Dukes of Portland and Richmond, the Marquis of Titchfield, the Earl of Stradbroke, Lord Maidstone, Colonel Peel, Captain Rous, Mr. Greville, Lord George Bentinck, and Mr. Irby; and in the body of the court Messrs. Gully, Greatrex, Weatherby, and, in fact, almost every well-known sporting-character at Tattersall's.

The Solicitor-General, Mr. Richards, and Mr. Crompton appeared for the plaintiff; Sir Thomas Wilde, Mr. B. Andrews, and Mr. Waddington, were retained for the defendants.

Mr. Crompton opened the pleadings by stating that this was an action brought by the plaintiff against the defendants, the Right Hon. G. Byng, his Grace the Duke of Bedford, and Colonel George Anson, to recover damages for a libel which had been published in the newspapers by the defendants, in their capacity of stewards of the Jockey Club, and in which it was stated that the plaintiff was a defaulter in the payment of his bets according to the practice of the turf, and which publications were of a nature to do the plaintiff's character serious injury. The defendants had put upon the record a plea of "Not guilty," and a justification of the truth of the facts contained in the alleged libel.

The Solicitor-General then rose to address the Court and Jury. He said, that the plaintiff was a gentleman well known as being one of the most eminent merchants in the city of London, and he had been compelled to bring this action against the defendants, not so much to recover pecuniary damages from the defendants for the libel which they had published in the newspapers, as to set his character right in the estimation of his fellow-citizens. The case arose out of certain transactions connected with the Epsom Races of the year 1841. Mr. Thornton, it was stated by the learned counsel, was in the habit of attending the races at Newmarket and Epsom, and unfortunately some transactions took place with respect to the races at Epsom, in the year 1841, which had been the subject of much comment in the various newspapers of the day, had considerably agitated the sporting world, and had been the subject of an action, which was tried in this court in the early part of the present year. The plaintiff felt himself compelled to bring this action, not for the purpose of obtaining any sum of money by way of damages, but because the defendants had thought proper to publish statements in the public newspapers, and which statements were thereby most extensively circulated, to the effect that he was a defaulter in payment of his bets, and that, being so, it was their duty to warn him from attending at any place under the control of the stewards of the Jockey Club. Mr. Thornton felt it his duty publicly to repel so serious an imputation, most especially serious when it related to a merchant who had transactions over every part of the globe, and which, by being published in newspapers of extensive circulation, would spread the slander over the whole world. The statement which the defendants had circulated amounted to this—that the plaintiff had not paid his debts ; that he had, in point of fact, failed in fulfilling an honourable engagement; that he had acted unlike a man of honour and a gentleman ; and that, therefore, they had felt it their duty to warn him from appearing in any place wherein they had any power, or over which they had any controul. This was the libel complained of, and it was possible this publication might have arisen from feelings of irritation at the result of the trial which had before taken place in connexion with this affair. The circumstances which had led to this action were simply these :—At the Epsom races of 1841, the plaintiff attended and made bets with several persons; among these was a Mr. Gurney, who, it was believed, kept a public-house in the borough of Southwark, and who was also in the habit of attending races, and betting largely upon their result. Upon this occasion Gurney

had won from some, and he had lost to others. From the plaintiff he had won £1350, but had also lost largely, and amongst others he had lost to Mr. Portman, Mr. Beale, and to a Mr. Clarke; he had also lost to Mr. Byng, one of the defendants on this record, and to other persons who were in the habit of frequenting and betting on races. The practice of the turf as respected betting was this:—Parties betting keep books wherein they enter the names of those with whom they make bets, and also the amount of their winnings and losings. After the races are over there is a settling-day fixed, which, as regards Epsom races, is generally the Tuesday following. On that day all parties attend at Tattersall's to pay their losses and receive their winnings; and any person who makes bets, and who does not then attend and settle them, is considered as a defaulter, and, according to the rules and practices of the sporting world, if he does not pay his losses he is not entitled to receive from those of whom he has won. This is the invariable rule, and parties who had lost money to one so circumstanced were not bound to pay him. Now, on the Tuesday in question, which was the settling-day, Gurney did not appear at Tattersall's either to pay or to receive; the fact was, he had lost money which he could not pay, and the consequence was, that those who had lost to him declined to pay him; in fact, he never attended at Tattersall's; he made no demand on his losers; he neither attempted to pay or to receive. However, certain gentlemen who had won largely from Mr. Gurney, conceived a device by which to obtain their money from him, and they proposed to him to receive all bets which might be due to him on the races, and then satisfy those who had won from him by paying the amount of their winnings. Gurney agreed to accede to this arrangement, and authorized Messrs. Portman, Beale, and Clarke, accordingly, who proceeded to lay the facts before the stewards of the Jockey Club, and received their sanction for the course they were pursuing, not, however, without some dissatisfaction being exhibited amongst the members of that body, who protested against the arrangement, unless all the creditors of Mr. Gurney were paid in full, as they considered that such a thing as a composition in the payment of bets was altogether unprecedented and unheard of. Messrs. Portman, Beale, and Clarke, being anxious to carry out the arrangement, entered into an undertaking that Gurney's debts should be paid in full at the end of the Houghton Meeting at Newmarket, which takes place at the end of October. They then applied to several of the parties who had lost money to Gurney for the payment of their bets, many of whom refused at that moment to settle with them unless a guarantee were given that Mr. Gurney's debts should be paid in full before a certain day, and Messrs. Beale, Clarke, and Portman then agreed to give such guarantee; and to carry on the transaction on that footing, they accordingly deposited in the hands of the steward the following undertaking, signed by themselves:—

Tattersall's June 14, 1841.

"We, the undersigned, undertake that Mr. Gurney's account shall be paid in full, by the end of the Houghton Meeting."

It appears that these gentlemen then applied to Mr. Thornton, to pay them the amount which he had lost to Gurney, and wrote him the following letter:—

"Sir,—Mr. Weatherby having been desired by the Jockey Club to furnish you with a copy of their decision upon an investigation of Mr. Gurney's case this afternoon, we have to request that you will pay us on Monday next, at Tattersall's, the amount due from you to Mr. Gurney.

We are, &c.

"W. B. Portman,

"*Oxendon-street, June* 12th. "Charles Beale."

Now, Mr. Thornton was one who disapproved of the whole transaction, from beginning to end; nor was he singular in his disapprobation; for it seemed that Lord George Bentinck had also expressed his disapprobation of it in strong terms. However, Mr. Thornton determined not to oppose any obstacle to the settlement of Mr. Gurney's account, if it were possible to settle it, and he accordingly wrote the following answer to the application:—

Old Swan, June 18.

"Gentlemen,—It appears to me you are acting in the capacity of assignees to Mr. Gurney, and are anxious to make as good a dividend as you can. However, on handing me a copy of Mr. Gurney's Epsom account, say debtor and creditor, and signing the memorandum at foot, I will instantly pay into the hands of either Mr. Cloves, Mr. Crockford, or Mr. Heaphy, the amount claimed of me.

"I am, &c.

"Richard Thornton."

To this letter was annexed the following guarantee:—

"Mr. Thornton having paid conditionally to Mr. ——— the sum of £——, it is agreed that said sum shall be paid to us, provided Mr. Gurney shall pay all and every claim on him in full on his Epsom account, on or before — November next; but in the event of his not paying every creditor 20s. in the pound within the said period, including the gentlemen having the arrangement, then it is understood and agreed that the amount shall be returned to Mr. Thornton."

That guarantee, therefore, it would be seen proceeded on the footing that Mr. Thornton did not consider himself bound to pay, unless Gurney paid the bets due from him; but that if a guarantee to that effect were given, then he would at once pay the amount due from him. On the 22d of June, Mr. Portman and Mr. Beale called on Mr. Thornton; they agreed to give this guarantee; it was signed, and plaintiff paid over to them a checque for £1250, and gave them an order for £100 on a person named Adkins. Messrs. Portman and Beale signed the account and the guarantee, by which they were to pay Gurney's losses on or before the last day of the Houghton Meeting, and if not paid in full, the money was to be returned to Mr. Thornton. It subsequently appeared, that many of these creditors were paid in full, in which number was Mr. Byng. Others who had not the same degree of influence, instead of being paid in full, received 10s. in the pound; but even amongst this class, the composition was not all the same; for some had received 20s., others 10s., and some again as low as 7s. in the pound. When this became known, an application was made to Messrs. Portman, Beale, and Clarke, to know whether they had fulfilled their contract; it turned out they had not done so; they had not paid Mr. Gurney's creditors in full; as some had received only 7s., others 10s. in the pound. The consequence was, that Mr. Thornton said he would not put up with it; he had paid the money on the understanding that Gurney's creditors should be paid in full, and not by a composition with his creditors; he demanded to be repaid his money, and not getting it, he brought his action in this court, and got a verdict for it. It was hoped that this would have put an end to the matter: but it was not so; for the defendants thought fit to publish in *The Times*, the *Morning Herald*, and other papers, the libel which formed the subject of the present action, and they directed Mr. Weatherby, their secretary, to send it to *The Times*, the *Morning Herald*, and other papers, with a letter requesting that it should be inserted in their earliest numbers. The learned counsel then read Weatherby's letter and the libel in question, which was in the following words:—

"TO THE EDITOR OF THE TIMES.

"Sir,—I am directed by the stewards of the Jockey Club to request that you will insert the annexed letter to Mr. Thornton, in the earliest number of your paper.

"I am, Sir,

"Your obedient Servant,

"7, *Oxendon Street, February* 25, 1842. "C. WEATHERBY."

"TO RICHARD THORNTON, ESQ.

"SIR,—As you failed to appear when summoned on the 9th inst., and have not paid the sum of £100, which you owe to Mr. Gurney on his Epsom account, I am directed by the stewards of the Jockey Club to give you notice, under the 41st rule of the club, that you will not be permitted to come into the Coffee-room yard at Newmarket, nor upon the race-course there, until the bets due from you to Mr. Gurney in respect of which you have been declared a defaulter, shall be certified to have been discharged; and that if you disregard this notice, it will be enforced against you by legal process. I am directed to add, that information of this notice having been served upon you has been sent to Messrs. Tattersall. The stewards, at the same time, expressly desire to have it understood, that they do not take into their consideration any contract or agreement involving legal liabilities between you and any other parties, nor any of the consequences thereof; still less do they presume to impugn any decision of a court of law thereupon. It is sufficient for them that you have made bets upon a race, and that, having lost those bets, you refuse to pay them; and when it has been decided by the Jockey Club that you are bound to pay what you have lost, you set that decision at defiance. You are, therefore, according to the practices of the turf, a defaulter, and as such, the stewards deem it their duty, not only in vindication of their authority, but as an example as well as a protection to others, to exclude you from all places in the occupation or under the jurisdiction of the Jockey Club.

"I am, Sir, your very obedient servant,

"C. WEATHERBY."

"7, *Oxendon-street, February* 25, 1842."

With respect to this letter he would ask, if the defendants meant to have acted *bona fide*. If they thought that they had the power to declare Mr. Thornton a defaulter, and therefore to exclude him from those places over which their power and influence extended, why did they not write to the Duke of Portland, their tenant, at Newmarket, or to Mr. Tattersall, for that purpose? Instead of doing so, they directed their secretary, Mr. Weatherby, to publish letters on the subject in *The Times*, the *Morning Herald*, and other papers, to be circulated through the world. There could be no other object for such procedure than that of doing the plaintiff an injury. It was done in a vindictive spirit, because Mr. Thornton had come into that court and obtained the verdict of a jury, in opposition to the decision of the Jockey Club; and because he had done this—because he had appealed from their decision—because he had sought and obtained the verdict of a jury, they had thought proper to publish letters stating that he was a defaulter, that he had not paid his debts, and was therefore excluded from the precincts of the Jockey Club. He would call the attention of the jury to the defence set up. In their first plea the defendants stated, that when any question arose touching any bets on horse-races the Jockey Club was the proper tribunal to appeal to in such cases, and that their decision was

binding on persons making such bets. He denied that fact. The Jockey Club had no power or authority of the kind, unless all the parties chose to refer the matter in dispute to their arbitration. They had then a right to decide them, but they had no right to say to Mr. Thornton, "You must pay Mr. Portman, Mr. Beale. and Mr. Clarke, and if you do not do so we will pronounce you a defaulter." He denied they had any such authority. They had never called Mr. Thornton before them. He had never heard from them. They had never summoned him or given him notice until immediately before the last trial, when they sent him notice not to attend their meeting. Mr. Thornton was not a member of the Jockey Club, therefore they had no right to bind him by their rules, nor to declare him a defaulter when he acted according to an established practice, and a distinct understanding which existed between him and the gentlemen with whom his money was deposited. He denied that the plaintiff had acted contrary to the practice of the turf. He had nothing to do with the Jockey Club. He had lost money to Gurney, which he had paid to his assignees, with an understanding that it should be paid only when Mr. Gurney settled his own bets; that understanding was violated; and yet, on account of this circumstance, the defendants had thought proper to publish him a defaulter. Was this not a most serious matter? What would be the consequence when these papers were read by persons with whom Mr. Thornton had commercial transactions, and who knew nothing of the facts of the case? What could be thought, but that he (Mr. Thornton) had made certain bets, and had acted dishonestly in refusing to pay them—and that so dishonourable was his conduct that the Jockey Club deemed it right to exclude him from places over which they had controul? Under these circumstances Mr. Thornton had brought this action to vindicate his character and to shew the real circumstances of the transaction. They could not prove that Mr. Thornton had acted dishonourably in this business. What he had done was this—he protested against paying Mr. Gurney against all former practice or usage; but if he (Mr. Gurney) acted fairly, then he would pay the money. Mr. Thornton deposited the money on a distinct pledge, which was violated, and he insisted, therefore, on getting it back. He now asked for a verdict, not for the sake of obtaining money, but that a jury might mark their sense of the nature of the publication, and to shew the world that Mr. Thornton, so far from being a defaulter and dishonourable man, had acted fairly and honestly throughout the whole of these transactions. The learned counsel then proceeded to call witnesses.

John Knight was called to produce the letter sent from Mr. Weatherby to *The Times* office, which proof being admitted, and the other letters put in and admitted,

Mr. Weatherby was then examined by the Solicitor-General.—I am secretary of the Jockey Club and stakeholder. Mr. Thornton is not a member of the club. The present defendants were members of the club. He sent to *The Times* office the letter complained of, and to the offices of other papers. That was on the 25th of February, a few days after the trial. The trial took place on a Tuesday, and they were published on the Friday following. He sent the letter to *The Times*, the *Morning Herald*, *Bell's Life*, the *Morning Chronicle*, and, he believed, to the *Morning Post*, but the *Morning Post* did not insert it.

Cross-examined by Mr. Serjeant Wilde.—Was secretary of the club since 1836. Was well acquainted with the laws of the turf. All bets were decided by the Jockey Club. Never saw Mr. Thornton to his knowledge at any race. Knew that there were complaints among the Jockey Club respecting Mr. Thornton's bets with Mr. Gurney. There was on the 12th of June

a meeting of stewards and other members of the Jockey Club on the subject. There were present, the Earl of Stradbroke, the Duke of Rutland, the Marquis of Exeter, Colonel Peel, W. H. Irby, Esq., and Mr. Greville. A special meeting of the Jockey Club took place subsequently, on the 25th of July. He gave letters to his clerk to be put in the Post-office in consequence of these meetings.

Robert King Smart proved the sending of the following letter:—

"7, *Oxendon-street, July* 7, 1841.

"Sir,—I am directed by the Stewards of the Jockey Club, to request your attendance on Wednesday next, at 1 o'clock, in pursuance of the following resolution passed at a general meeting of the club on the 5th instant:—

"'That the stewards do summon before them the persons who refuse to pay the money lost by them to Mr. Gurney on his Epsom account, and that those who do not appear, or who shall still persist in refusing to pay, without shewing satisfactory cause, shall be considered as defaulters, and treated as such.'

"I am, Sir, yours,
"C. Weatherby."

"R. Thornton, Esq."

Mr. Weatherby's examination resumed.—There was a meeting of the stewards and other gentlemen, at which it was resolved that Messrs. Portman, Beale, and Clarke were authorized to settle the amount of the bets made by Mr. Gurney, and that all persons indebted to Mr. Gurney should pay the money lost to them.

The resolutions of the Jockey Club, which were passed at the Thatched-house, St. James's-street, were then read. The meeting was held on the 7th of February; there were present Colonel Anson, Duke of Rutland, Colonel Peel, Earl of March, Sir John Shelley, Duke of Richmond, and Earl of Wilton. On the 9th of February a summons was issued, calling on Mr. Thornton to attend. He did not appear, nor did he make any communication. By the 5th rule of the Jockey Club, which was read, it states that all disputes relating to races at Newmarket, and bets on racing elsewhere, if any of the parties interested should request the interference of the stewards, shall be determined by two stewards and two referees, who shall be members of the club; one to be chosen by each of the parties concerned, if either of them shall desire to have a reference. If only two stewards be present, they shall fix on a third person, being a member of the club, in lieu of the absent steward. But the stewards, if they think fit, may call in any of the members of the Jockey Club to their assistance, or may refer the case to a general meeting of the Jockey Club, if the importance or difficulty of the matter in dispute may appear to them to require it. The stewards have the power of deciding, but the parties have the option of appointing two referees—one each. The rules of the Jockey Club are the laws of the turf as regards horse-racing; but, as regards bets, their jurisdiction is universal. There was no request made to him by Thornton as to the reference. He is the official organ of the club. It is not the practice to decide in the absence of one party.

Lord Abinger.—If one party claims an adjudication, and the other refuses to attend, does the Jockey Club proceed to decide?

Witness.—Did not remember a case of the kind. There have been instances where parties failed to attend.

Lord Abinger.—What is the course then pursued?

Witness.—A fresh notice is given, and then, if the party does not attend, the stewards decide.

The Solicitor-General.—But do you know of such a case?

Witness.—I do not.

Sir T. Wilde.—You do not know of any such case?

Witness.—No.

Lord Abinger.—You do not know of any case of refusal to attend?

Witness.—Parties have not attended from various causes, which may have prevented them in the first instance. Mr. Thornton got notice to attend. Did not remember any case where the party gave a distinct refusal to attend. Did not recollect any case but the present. The summons was issued at the instance of Messrs. Portman, Beale, and Clarke. The first meeting, in consequence of their complaint, was held the 12th of June. At the general meeting of the club held on the 5th of February subsequently, four persons were summoned, amongst whom was Mr. Thornton. He had notice of the opinion which was entertained. The first time this statement was taken under consideration was on the 12th of June. The statement was then put in and read. It stated that Messrs. Portman, Beale, and Clarke, were deputed to settle Mr. Gurney's Epsom account, and that a Mr. D—— owed Mr. Gurney £1500, and a Mr. A—— £500. In consequence of Mr. Gurney's irritation of mind they undertook to settle his account, he having won at Epsom £2500, and on demanding payment of it, and being refused, he said it was enough to set any man mad, and he would leave the yard. One gentleman offered his bill for £500. By the authority of the Jockey Club they undertook the settlement of his account. They therefore wrote to Mr. Thornton on the Monday previous to settling-day, but not receiving any answer, they wrote to him, peremptorily calling on him to declare the cause why he refused to settle the account. The date of the meeting of the stewards and the selection of members was the 12th of June. The statement just read was laid before that meeting. On the 5th of February, 1842, there was a meeting of the stewards of the Jockey Club and certain members of that club. I never knew the Jockey Club act in reference to the settlement of bets except on complaint being made to them. I inserted an advertisement in the *Racing Calendar*, calling on any parties having claims on Gurney to send in their demands to me. In consequence of this advertisement I had two communications,—one from a Mr. Pattenden, and another from Mr. Hawker. The former was withdrawn, and there was nothing done in respect of the latter, the subject having been previously considered by the stewards. That was the reason assigned by the stewards for not taking Mr. Hawker's account into consideration. Mr. Hawker's letter had relation to the losses which had taken place at Epsom by Mr. Gurney.

Re-examined by the Solicitor-General.—The reason the club refused to give consideration to Mr. Hawker's letter arose from his being a defaulter. It is not the practice of the turf, if a man is himself a defaulter, to consider such a man entitled to be paid. During my experience of the turf I never heard of assignees being appointed in reference to bets made upon racing. This is the first instance of the kind I ever knew of. I have officiated as the secretary of the Jockey Club since 1836, but I have been connected with the club for the last twenty years. The fifth rule of the Jockey Club says, that "all disputes relating to racing at Newmarket, or bets on racing elsewhere (if any of the parties included should request the interference of the stewards), shall be determined by three stewards and two referees, who shall be members of the club, one to be chosen by each of the parties concerned, if either of them shall desire to have referees," &c.

The Solicitor-General.—Now, be good enough to read the sixth resolution of the club.

The witness then read as follows :—

"If any dispute, arising elsewhere than at Newmarket, shall be referred to the stewards of the Jockey Club, and they shall think fit to take it into consideration, the matter must relate to horse-racing, the facts or points of difference be reduced into writing, and be sent by, or with the sanction of, the stewards where the matter in question occurred, and the parties must agree in writing to abide by the decision of the stewards of the Jockey Club."

The witness here observed, that this rule had no reference to bets; but if parties came and solicited the interference of the club, then they would proceed to consider any complaint, in respect to bets, that might be laid before them. I never knew of a case where the club came to a resolution in reference to the payment of bets in the absence of the party, or without notice being sent to the party affected. On the 12th of June, at the meeting held on that day relative to Gurney's affairs, two or three persons were examined in support of the statement read there. Mr. Thornton received no notice from me of this meeting, and yet the club came to resolutions relating to that gentleman. These resolutions were signed by Captain Rous, Colonel Anson, and the Duke of Bedford. I do not know that Captain Rous had won money from Mr. Gurney. The effect of the resolution was, that the debtors of Mr. Gurney were bound to pay over their losses to Messrs. Portman, Beale, and Clarke. The sixth resolution referred to had no reference to bets.

Lord Abinger.—Where is the reference as to the power of the Jockey Club touching bets at Newmarket in any resolution?

Witness.—The practice is for the club to take cognizance of bets and every thing that occurs at Newmarket; but the club has nothing to do with bets any where else. The resolution is therefore erroneous, when it does not point to bets made at Newmarket. The club recommends the adoption of its rules for racing at Newmarket to the country race courses, and will not take cognizance of any country race, unless it is founded on the Newmarket basis. The sixth resolution refers solely to disputes arising out of racing. There was a meeting of the Jockey Club on the 5th of February, 1842; but I did not give any notice of the meeting to Mr. Thornton. I know of nothing officially having been stated at the meeting of the Jockey Club in reference to its being dishonourable for Mr. Thornton to have gone to law. There was a great deal of discussion in the club, but no resolution was put from the chair on that point, nor have I any record of any thing of the kind having occurred. After this meeting of the 5th of February I received a list containing the names of four persons who were defaulters. They were Mr. Watts, Mr. England, Mr. Dixon, and Mr. Thornton. Of these Mr. England did not attend. Mr. Dixon set the Jockey Club at defiance, and he was declared to be a defaulter. I had no instruction to send an account to the newspapers of the fact of his being a defaulter. I had, however, instructions from the club to send such a communication to the newspapers in the case of Mr. Thornton.

To a Juryman.—Did not publish Mr. England's or Mr. Dixon's names in the newspapers as defaulters. I had, however, instructions to communicate the fact to Tattersall. When I sent to summon Mr. Thornton to attend the Jockey Club, I knew that the trial of "Thornton *v.* Portman" was then pending. I was summoned as a witness. It was in the statement made by the assignees that Watts, Adkins, and Davies were indebted to Gurney. These persons were not declared to be defaulters. The account furnished by the assignees of Gurney's affairs was laid before the Jockey Club. The account

shewed the parties that were paid in cash, and those who were paid partly in cash and partly in outstanding debts. Some of the members of the Jockey Club were against this matter being brought under their consideration altogether. Among the objectors were the Duke of Richmond and Lord G. Bentinck. I do not know that Mr. Holdsworth was an objector. I think Sir J. Shelley acceeded to the resolutions passed at the club; I am, however, aware that he spoke against the proceedings. There was a meeting held on the subject at the Duke of Bedford's, at Woburn Abbey. This meeting took place on the 11th of December, 1841. I did not give notice to Mr. Thornton to attend the meeting.

The Court, at the suggestion of Sir T. Wilde, wished to know if any party was summoned by the Jockey Club, except upon application of a complaining party?

Witness.—It is not the practice to do so.

Lord Abinger.—Under what circumstances does the club declare a man to be a defaulter?

Witness.—When it has been decided, after hearing that he is bound to pay, and that he neglects or refuses to do so. The witness further proceeded to say, that the guarantee which was given by Messrs. Portman, Beale, and Clarke, dated the 14th of June, did not come into his possession till the 5th of February. It was not a paper belonging to the Jockey Club; it had been sent to him by Colonel Anson.

The undertaking was then put in and read, and was as follows:—

"*June* 14, 1841.

"We, the undersigned, undertake that Mr. Gurney's account shall be paid in full by the end of the Houghton Meeting."

It was signed by Mr. Portman, Mr. Beale, and Mr. Clarke.

To Sir T. Wilde.—There was no minute of the guarantee made in the books of the Jockey Club. The guarantee was merely produced at a meeting of the club by one of the stewards.

Lord Abinger.—To whom did you understand this guarantee was granted?

Witness.—I knew nothing about it till it was sent to me by Colonel Anson on the 5th of February. Davies and Adkins were not summoned to attend the club, because nobody had complained against them. I sent a copy of the guarantee to Lord George Bentinck by Colonel Anson's desire.

The Duke of Richmond was then examined by the Solicitor-General; but said little more than that he had always understood the practice of the turf to be, that those who did not pay their bets were not entitled to receive their winnings, and that he had never heard of any compromises being made, or of assignees being appointed to settle the debts of a defaulter.

Mr. G. Thornton was then called, who deposed to the payment of the money by plaintiff, and the fact that Messrs. Portman, Beale, and Clarke had given the guarantees before-mentioned.

Lord George Bentinck was next called, and in reply to the Solicitor General, said,—I have been a member of the Jockey Club fifteen years. The practice of the turf is, that if persons who make bets do not pay, they are not entitled to receive. I know of no instance before the present, of persons being appointed assignees to settle the account of a defaulter. This is the only instance of the kind that ever occurred. I lost bets to Mr. Gurney on the races at Epsom in 1841. He appeared at Tattersall's on the settling day, but he did not pay. I did not see him, but I heard he was there. There was an application made to me on the Friday following to pay what bets

I lost to Mr. Gurney to assignees. I refused to pay them, until I got a guarantee that all claims on Mr. Gurney on account of betting should be paid in full by the end of the Houghton Meeting. I got a guarantee to that effect, and paid the bets I lost. I stated at a general meeting of the Jockey Club, held after the Houghton Meeting, that the guarantee had not been complied with. The Houghton Meeting in 1841 took place in October. I gave formal notice at that meeting to Colonel Anson and to Mr. Byng, who were the only stewards of the Jockey Club present, that the guarantee of Mr. Gurney's assignees had not been fulfilled, inasmuch as Gurney's debts had not been paid in full; that the guarantee had then but one day to run, and that the assignees would forfeit the money they had received, if it were not fulfilled within twenty-four hours. I first saw the assignees' account at the meeting of the Jockey Club on the 5th of February. At the meeting on the 5th February Colonel Anson was in the chair. It was stated at that meeting, that there was a claim of £100 made by a Mr. Hawker on the assignees with respect to a debt due by Mr. Gurney; but the claim was refused by the sanction of the stewards, on the ground that Mr. Hawker had not paid his own debts; that he was himself a defaulter, and that he was not, therefore, entitled to receive. I know no instance of persons being warned off the course at Newmarket for non-payment of bets. I know no instance of persons being warned off on other grounds. There might have been several instances, though I am not aware of them. I do not think any persons have been advertised in the newspapers as defaulters.

Cross-examined by Sir T. Wilde.—I have myself proposed a rule, that all defaulters should be advertised in the newspapers. That resolution was opposed by Colonel Anson and other gentlemen, on the ground that it would subject the club to an action for libel. A great deal had been said in the newspapers about those bets of Mr. Gurney. I never knew so much to be stated in newspapers about any other transactions connected with horse-racing. I heard of the guarantee, and that £1250 would be paid by Mr. Thornton. I was not myself immediately interested in that bet.

Sir T. Wilde.—Do you mean to say that you were not interested to the extent of one-third of £500 in that bet made by Mr. Thornton?

Lord George Bentinck.—If I am obliged to say yes or no to the question, I would say that I was certainly not at all interested in the payment of the debt; but I wish to state the circumstances. I employed a gentleman, a Mr. Cromley, to make bets for me and another party, and Mr. Cromley made a wager with Mr. Thornton, who took the odds about a horse. If the money was won the money would come indirectly to me; but the bet was lost, and accordingly I had to pay it, and I did pay it to Mr. Cromley. I was not interested in the payment of Mr. Thornton's bet.

Cross-examination continued.—I contributed some portion of the bet indirectly through Mr. Cromley. I know from Mr. Cromley that the bet has been paid to Mr. Thornton. I paid my portion of the loss on the Monday, on the day before the settling-day. It was usual for those who lost on such occasions, and who also won, to meet together to balance their losses with each other, and to transfer their winnings or losses. I did not see Mr. Gurney on Monday or Tuesday.

Suppose a party did not appear on the settling-day, but afterwards paid his losses, would he receive his winnings in the meantime?—If the losers are satisfied that he has paid his own losses; but the proof of that rests on the person who has been absent on the settling day. Absence is presumptive evidence that the individual does not mean to settle. It rarely happens that any gentleman absents himself without making some communication through some agent. Agents frequently act for the winners and losers. I believe

there are instances where a person who has received notice to appear before the stewards fails to do so, that the inquiry was adjourned to some other day. I did not see Mr Gurney on the Wednesday or Tuesday. Colonel Anson was the person who received the guarantee. Mr. Beale, Mr. Clarke, and Mr. Portman were present at the time; other persons besides me, who were losers to Mr. Gurney, were present. I refused to pay the bet which I lost to Mr. Gurney until a guarantee was given that he would pay 20s. in the pound on his own losses. The guarantee was given to Colonel Anson, or rather it was handed by Mr. Payne to him.

Re-examined by the Solicitor General.—Mr. Payne is a member of the Jockey Club, and was one of the creditors of Mr. Gurney, and was interested in the settlement of the account. There were various persons present to whom Gurney lost money.

The jury were here permitted to retire for some time. On their return to court,

Lord Abinger said,—The entire question in dispute is, whether payment in full means payment of 20s. in the pound. Is it worth while to quarrel about it? Had you not better leave the matter to some third person to determine?

The learned counsel at each side consulted for some time, but the attempt to effect a compromise having been ineffectual,

John G. Dixon was called, and examined by Mr. Richards.—I am acquainted with Mr. Gurney. I saw him on the day preceding the settling of the Derby last year. I had a conversation with him about the payment of bets. He authorized me to make a declaration on the next day, that he could not pay his debts, as others would not pay him.

Cross-examined by Mr. Andrews.—I lost money to Mr. Gurney, and I attended on the settling day for the purpose of paying him. I did not pay him. I saw Mr. Gurney on Tuesday. He was in the yard. He had no money in his hands.

Will you venture to swear that he had no money in his hands?—I will venture to swear that I did not see any.

Will you swear that Mr. Gurney authorized you to make the declaration that he would not pay?—I will.

What was the amount of your bet?—£140.

Did you take it to Tattersall's on Tuesday to pay it?—I did.

Did you lose money to other parties?—I did.

How much did you lose altogether on the Derby?—I did not lose on the Derby at all. I should have been a winner if others had paid me.

How much did you lose in consequence of your bets not being paid to you?—I lost £1700 or £1800.

What was the largest amount which you paid?—I paid Mr. Gully £800.

By Mr. Richards.—I should have been a winner, if paid, to the extent of £1900.

Do you know that Adkins was a defaulter?—I believe he did not pay the people. (Laughter.)

The Duke of Portland examined by Mr. Richards.

Are you tenant of the Newmarket race-course?—I am.

Are you acquainted with the rules of horse-racing?—I am.

Is it not always the case, that those who do not pay their losses by bets on the races do not receive their winnings?—It is the case.

On this occasion were you instructed to warn Mr. Thornton off the race-course?—I wrote to the Duke of Bedford.

Sir T. Wilde objected to his stating the contents of his letter to the Duke of Bedford.

The question was not pressed.

Examination resumed.—I did not warn Mr. Thornton off the ground.

By Mr. Waddington.—I am tenant to the Jockey Club. I did not warn Mr. Thornton off the ground.

Richard Tattersall, examined by Mr. Richards.—I received a letter from Mr. Weatherby. In consequence of that letter I gave Mr. Thornton notice that he could not appear at the betting-yard. I had received from Mr. Weatherby a notice, which was dated the 25th of February. The notice was then read. (It states that he was directed by the stewards of the Jockey Club to acquaint him, that Mr. Richard Thornton had been adjudged by them a defaulter, and he had, consequently, received notice that he could not be admitted to the betting-yard, not to the ground on the Newmarket race-course). I then wrote a note to Mr. Thornton, which was as follows :—"The Messrs. Tattersall beg to inform Mr. R. Thornton that, according to the 41st rule of the Jockey Club, he is no longer a subscriber to the rooms."

The case for the plaintiff here closed.

Sir T. Wilde then said, he was by no means clear that the present case was understood by the jury. He appeared there for the defendants, who were the stewards of the Jockey Club. The jury were aware of the nature of that association, which consisted of noblemen and gentlemen of rank and fortune, who united for the purpose of procuring the due performance of the obligations of honour and good faith in matters relating to or arising from horse races. They were aware that betting created associations between two distinct ranks in society, and individuals meeting at Tattersall's yard and betting room, met there, and only there, on terms of equality. The nature of the transactions which take place there between such persons are entirely dependent on the honour of the parties; and the arrangements there entered into are not expected to come under the cognizance of a court of law. The character of the individuals who attend are not known, and if known might be in some cases rather equivocal. Yet these men of honour, and others whose honour is not so bright or firm, are compelled to meet together. Unless, therefore, there were some common tribunal, whose authority is admitted on all hands, and is considered binding on all parties, such transactions could not go on. If a man were permitted to decide for himself whether he would pay his losses or would not do so, and if, after a refusal to pay a just debt, he could still go on, it was impossible that the present system of betting could be carried on for a moment—such transactions must cease entirely. It was, therefore, necessary for the protection of all parties that some tribunal should exist, the character and station of whose component members should be a guarantee for the justice and equity of their proceedings, and for the due and honourable performance of those contracts which take place among sporting men. It is for this purpose that the Jockey Club exists. It must be obvious that many cases must arise with regard to bets, whether lost or won, of such a nature as could not come under the notice, or require the interference, of a court of justice. Considering the nature of these transactions generally which take place, and how loosely they are conducted—considering how seldom contracts there made are, or can be, reduced to writing—it will be seen how absolutely necessary it is to have some tribunal consisting of men moving in that class of society which gives an assurance of honour and integrity in its members. With that view the Jockey Club was created. Unless there were that tribunal, or some other, to decide such matters, they would have men who, after receiving their winnings, would refuse to pay their losses; plenty would be found to excuse themselves from paying, and who would easily find somebody to agree with them and support them. The question is, whether the Jockey Club is a

competent tribunal to decide on who was a defaulter, and that must depend on the usage of racing, and on the practice of betters, and on circumstances which the Jockey Club must know well how to deal with, but which, if brought before a judge and jury, would be little likely to receive a just decision. The three gentlemen who were defendants in this action had no feelings of hostility towards Mr. Thornton; they had done nothing but their duty, and, if they had erred, there were no men more ready to repair their error than themselves. What was the state of the case? Mr. Gurney betted on the Derby; he won and lost large sums, but on the balance of the account he was a large winner, and should those who lost to him, and whom he went to Tattersall's to meet, pay him the amount of their bets which he won of them, he would then have the means of paying his losings. He went to Tattersall's on the Monday to compare his book and to make it up, in order to be in a condition to pay and receive the following day. The next day he went there for the same purpose, and when he went there persons told him that they would not pay him, as they had heard he did not intend paying. He went there with money, intending to pay his losses if he could have got his winnings. The amount of all his losses put together was under £10,000, and he had £11,000 to receive; and he had no reason to expect that he should not be paid; but before he could speak one word, before he could either give or receive an explanation, he found himself in a situation to prevent his paying that day, and therefore he went away. The fact was, that Dixon, whose evidence they had heard, had been in this instance making an excuse for himself. Gurney's statement to Dixon was, that he would pay his losses. Dixon, in the mean time, had told him that parties did not mean to pay him; and Gurney, in consequence, used expressions which Dixon circulated, to the effect that he (Gurney) would not pay unless those parties paid him, the consequence of which was that Gurney left Tattersall's without making any settlement. Now what takes place? Three gentlemen who had won largely from Gurney call upon him, and ask him, "Does he mean to pay?" Gurney shews his account, and offers it to them to collect and arrange all his transactions. He does more; he gives them £500 in addition. These gentlemen, or assignees, as they are called, looking over the accounts furnished them, find they will not only be able to pay, but have a surplus to return to Gurney. So confident were they, that they gave a guarantee to certain parties to pay 20s. in the pound, and they proceed to do so as fast as they can. These gentlemen pay in cash £5956 to the winners of Gurney; some of the losers offered bills, which were discounted, and their proceeds paid 20s. in the pound; but some gentlemen cannot be prevailed upon to pay at all, and hope to escape with money in their pockets. There yet remained a considerable sum outstanding, and the assignees had already paid more than £8000. It appears from the accounts that Gurney was indebted to Mr. Beale £1875, to Mr. Crockford £1100, and to Mr. Clarke £1200. These gentlemen were authorized to collect the remaining debts, to the extent of £7228. Amongst the creditors of Gurney were persons who had debts which amounted to £3000, and Mr. Gurney, having handed over to his assignees a bill for £500, they agreed to take this amount in satisfaction of the balance owing them. They felt that he was willing to pay, that his giving an authority to collect his debts had given him a claim upon them, and they were willing to take the risk of that on themselves, and therefore these gentlemen agreed to consider themselves fully paid, and to discharge Gurney. The learned Gentleman then proceeded to comment on the proceedings before the Jockey Club, and to argue that they were perfectly right in the view which they took of the case; and that, consistently with their duty, they could do no otherwise than they had done, and that, under the cir-

cumstances, they were perfectly justified in pronouncing Mr. Thornton a defaulter. He continued:—Mr. Thornton says he is not a defaulter, because the assignees had not paid 20s. in the pound, according to their undertaking to him, and, that being so, he was not liable to any such imputation; but the Jockey Club says he is a defaulter, because he refuses to pay the bets he has lost. He would neither pay, nor go before the club to state his reasons for not doing so; and if this was the case, Mr. Thornton, he contended, had no right to complain. Then why did he complain? The ground of Mr. Thornton's dissatisfaction was, that he had been announced in the public press as a defaulter. The jury would not fail to remember, that this was not the first time that this affair had made its appearance in the public prints. It had, before then, made considerable noise. It was for that reason that the communication now complained of appeared. The learned counsel then proceeded to contend that the article in question was not a libel in point of law; that the Jockey Club was the proper tribunal to decide upon such a case as that of Mr. Thornton; and that the only question was, had he been dealt with according to the laws of that tribunal? If he had, and he trusted that the jury would be of opinion that he had, he firmly anticipated a verdict for the defendants.

He then proceeded to call Mr. Gurney, who was examined by Mr. B. Andrews. He said—I have for several years previously to 1841 been engaged in speculations connected with the turf. I know Mr. Thornton, the plaintiff. He has also been a large better, and attends at Tattersall's. I made a great many bets on the Epsom races in 1841. I made several bets with Mr. Thornton. I won from him about £1350. I attended at Tattersall's on Monday, the 31st of May, the day before the settling-day. I compared books with some persons who were there on that day. I found that on balancing my account I was a winner of about £1200. I saw Mr. Dixon at Tattersall's. I had made bets with him on Epsom races. He was a debtor of mine on our betting accounts. I did not authorize him to make any declaration that I would not attend to pay my bets on the next day.

What did you say to him?

Witness.—The only observation I made was, "that it were enough to make a man leave the yard and never enter it again" I made use of those observations in consequence of his reporting that there would be a great many defaulters. I attended at Tattersall's on Tuesday, the 1st of June. I took money with me, and also my betting-book. I applied to several gentlemen, amongst the rest Captain Higgins and Mr. Cloves, for a settlement. They said I must wait a little while, as there was a rumour that I was not going to settle my accounts. I did not learn from whom the report originated. I was not able to get any of the money that was owing to me. I never declared that I would not pay. When I found that I could not get paid what I had won, I left the yard, saying that I must apply to some one to settle my accounts for me. I said this publicly, and in such a manner that the people in the yard must have heard me. I was irritated at the time. To the best of my belief, I think Mr. England must have heard what I said. A few days after this I saw Mr. Portman, Mr. Beale, and Mr. Clarke. They had an interview with me, the result of which was that I intrusted them with the settlement of my betting accounts. I gave them my balance-sheet and a written order to receive and pay for me.

Cross-examined by the Solicitor-General.—I am a licensed victualler, and live at Walworth. I have been in the habit of attending at Tattersall's for the last six or seven years.

Mr. B. Andrews here interrupted the cross-examination, and said he had forgotten to ask the witness another question. The learned counsel then

asked him if he had given any money to Mr. Beale and Mr. Portman and Mr. Clarke?

The witness said that he gave them £500 to settle his accounts.

The Attorney-General.—Do you mean to say that you gave them £500 in money.

Witness.—No. I gave them securities for £500, which have since been paid. I think, upon the whole, I stood to win about £1200. I am sure I stood to win more than £658. I will swear that. I won money from a person of the name of Davis. I don't know that he was a defaulter. I did not see him at Tattersall's, but Dixon said that he would not be able to settle. Davis owed me £1476. Adkins was also a defaulter. He owed me about £500. I lost money to a Mr. Williams, and I think I also lost money to a person of the name of Wood. I never interfered with the accounts after I gave them into Mr. Portman's hands. Dixon came to me on the Saturday previous to the settling-day to make some communications respecting Davis and Adkins. I did not say to him at that time that after what he had said of Davis and Adkins it would be impossible for me to settle my account. I did not say that I would not settle.

The Solicitor-General.—Will you swear that you did not then say, "I shall not settle my account?" Witness.—To the best of my belief I did not say so.

Will you undertake to pledge your oath that you did not say so?—We might have had words that we did not think would come to light afterwards. (A laugh.) I won't swear positively as to what transpired on that occasion.

Lord Abinger.—Will you swear that you did not say you would not pay?

Witness.—I should not like to take an oath either way, that I said I would or would not settle.

The Solicitor-General.—Did you not tell Dixon to go to Tattersall's on Tuesday, and say, that in consequence of Davis and Adkins not paying, you could not settle your account?—I did not say so. I will swear it. I cannot recollect seeing Mr. Glenn at Tattersall's. I do not remember having said, either to Glenn or Dixon, that I should not be able to pay or to receive on account of the Derby races. I might, however, have said so in hopes of getting some person to settle my accounts for me. I afterwards authorized certain gentlemen to settle my betting accounts. They came to my house a day or two after the settling-day at Tattersall's. Mr. Portman, Mr. Beale, and Mr. Clarke, came to my house together. They were all winners from me to a large amount. I gave them a written authority to settle my Derby accounts. I took no part in the matter afterwards.

Mr. Portman examined.—I have been in the habit of attending races for the last six or seven years. At the Derby in 1841, I made bets with Mr. Gurney. I won from him at the last Derby £300. I saw him at Tattersall's the day before the settling-day. It was on a Monday. I also saw him on the Tuesday. When he entered the yard he had a roll of bank-notes in his hand. I did not see him pay any money. I saw him apply to a Mr. Cloves. Did not hear what Mr. Gurney said to Mr. Cloves, but heard Mr. Cloves answer. He said to Mr. Gurney, "I shall not pay any money until I see what you are about." I heard Captain Higgins say to Mr. Gurney, "Here is Mr. M'Donogh; if you will allow me, I will transfer the debt I owe you to him." Mr. Gurney refused to permit the transfer. I heard Mr. Gurney say, "if no one party will pay me, there is no use; I cannot pay others." I called the next day on Mr. Gurney, and made an application for the settlement of my account, and I received an authority from him to settle his account. Mr Beale and Mr. Clarke accompanied me. On receiving the authority, I went to the Duke of Bedford, Captain Rous, and Colonel Anson,

to know, as stewards of the Jockey Club, whether they would give their sanction for us to receive and pay the amount of the winnings and losings of Mr. Gurney. I did so because I thought their sanction would prevent disputes. I was not present at the meeting of the stewards on the 12th of June. I was in an adjoining room. I was called in, and their resolution was communicated to me. Having received the sanction of the Jockey Club, I went direct to Tattersall's, and stuck up Mr. Gurney's authority, and also the authority from the Jockey Club signed by the stewards. On the subsequent day I went into the city, and saw Mr. Thornton at the Swan-wharf. I told him I had Mr. Gurney's authority, as well as the sanction of the club, to receive. The account produced is a correct one. I received a £500 bill from Mr. Gurney. It was discounted, and I distributed the amount of it in paying Mr. Gurney's engagements.

Cross-examined.—I saw Gurney at Tattersall's on the Tuesday, the settling day. I did not hear him say, "Since no one will pay me, I will pay no one." I did not know that Davis and Adkins were defaulters. I did not apply to Gurney for money on the Tuesday. Gurney said to me, "Don't fear, your money is safe." I asked Beale how much Gurney owed him?—He said, "About £1800." I do not know what Beale is. Clarke is a coachman. Beale and Clarke accompanied me to Gurney's, when we received the authority from Gurney. He drew it up. Here it is: (the following is a copy):—

"*June* 5.

"I hereby authorise you to settle my Derby and Oaks account for 1841.

"GEORGE GURNEY."

I then took the authority to the Duke of Bedford and the two other stewards. The Duke first signed it, but with the understanding that it was not to be made use of except signed by the two other gentlemen. It was signed by them. The account produced is the one I prepared, and I gave it in along with the statement to Captain Rous.

Francis Clarke.—I was a better on the Epsom race in the year 1841, and I went to Tattersall's on the Monday. In consequence of what occurred, I accompanied Mr. Portman to Mr. Gurney's, when we got the authority. I assisted Mr. Portman in making out the account which is now produced. Within my experience, all disputes respecting racing transactions have been referred to the Jockey Club.

Cross-examined by the SOLICITOR-GENERAL. The purpose for which the paper containing the signatures of various creditors of Mr. Gurney, bearing testimony that they have been content with the exertions of the assignees, was procured, was in order to be able to produce such a document, in the first place, for the satisfaction of the assignees themselves, and for the satisfaction of the whole body of the creditors and debtors of Mr. Gurney, and, lastly, of the Jockey Club. The paper was signed, I believe, on the 2d of November. I won some money from Mr. Gurney. I saw that gentleman at Tattersall's on the Tuesday. On the settling day after the race, I saw him going into the yard, but I did not ask him for the money, as it is not usual to ask gentlemen the moment they are seen in the yard for the money which they may owe. Mr. Gurney's loss to me amounted to about £1200 or £1300, and I received of that sum £600. I once had a dispute about a race, which I referred to the Jockey Club. The decision was against me. No witnesses were examined for me. I made a statement. There were witnesses against me. The creditors accepted outstanding bills for the portion of Mr. Gurney's losses which remained unpaid to them.

The paper was read. It was as follows:—"In consequence of the discus-

sion which has recently taken place respecting Mr. Gurney's account, we, the undersigned, think ourselves bound, in justice to Mr. Portman, Mr. Beale, and Mr. Clarke, to declare that they have all along acted in concert with us; and we feel ourselves much indebted to them, for the zeal and success with which they have accomplished the settlement of outstanding debts, which, if received, are more than sufficient to pay us all in full satisfaction of our claims on Mr. Gurney." It was signed by Messrs. Crockford, Hill, Desbrow, Hyde, Penson, Willan, and Potterton.

Cross-examination resumed.—The paper is in my handwriting. It is not dated, because it never occurred to me to date it. I got some of the signatures to the paper. I got Mr. Willan's signature in the Queen's Bench Prison. I am not sure of that. No: I got it in the Craven Hotel, in the Strand. I went to him for the purpose of getting his signature.

Captain Rous, Mr. Greville, Lord Stradbroke, Colonel Peel, and Mr. Irby were then examined, but their evidence was all substanstially the same, and went to prove, that so long as the creditors of a person betting and who could not pay his engagements were satisfied, the club had no right to look farther into the matter; and that where a debtor had entered into arrangements which were satisfactory to a creditor, a person owing him money had no right to set that circumstance up as an excuse for non-payment of a bet lost by him to the party. Colonel Peel, indeed, expressed himself most strongly on such a case; he said that, in his opinion, a man who had lost money by betting on a horse-race cannot be excused the payment of it under any circumstances. The moment he loses, his money is gone from him for ever; and that he was bound to pay a bet which he had lost to another, even though that other had not paid his creditors. The moment a man of honour lost his money he had no further controul over it, and that therefore, under the circumstances which came before the Jockey Club, Mr. Thornton was a defaulter, and the club was justified in making the declaration.

Some further evidence was examined, all of which bore on the same point, and on the absolute authority of the Jockey Club in racing matters; and the defendant's case being closed,

The Solicitor-General, in a most able speech, to which we are unable to do justice to for want of space, replied.

Lord Abinger then proceeded to sum up. After recapitulating the evidence given, he proceeded to put it to the jury, whether they considered the publication which had been read was one likely to have an injurious effect on the plaintiff's character? Was it a libel on the plaintiff? He would likewise call their attention to this point:—Supposing the Jockey Club had acted strictly according to their jurisdiction—supposing they had a right to call the plaintiff before them, and he had attended and refused to pay his bets, they had a right to exclude him from Newmarket or from Tattersall's; they might send to the Duke of Portland to warn him from coming on the ground of the Jockey Club; but were they justified in publishing him as a defaulter in the newspapers? He thought they were not justified in doing so. The very offence of a libel consisted in the publication. That which was not a libel while contained in a man's pocket, became so if he published it. There was a part of the justification, too, which he did not think proved. The learned judge laid it down broadly, that though the decisions of the Jockey Club might be considered as binding on their own members, and even on others who had agreed to submit themselves to its decision, in which case it became a simple matter of arbitration, yet the case was widely different where the parties did not agree to be bound by their decision, and where one of them openly dissented from being bound by their dictum; in which case he considered that the Jockey Club had not a right to publish a man as a defaulter. After com-

menting upon all the circumstances, the learned Judge left it to the Jury to say whether, on the one hand, it was a libel; and, secondly, whether, presuming they believed the facts, they considered the circumstances proved, under the particular situation of the parties, a sufficient justification for the publication in question.

The jury retired, it then wanting about five minutes to eight o'clock; and in a quarter of an hour returned a verdict for the plaintiff—Damages £200.

THE EDUCABILITY OF ANIMALS.

This is a subject on which, as far as we are aware, no attention has been bestowed in the way of scientific investigation; yet such illustrations of it have been given, as would seem to point it out as a rich field for the philosophical naturalist. Regarding the endowments of animals as we generally do, it would be scarcely possible for us to believe some of the anecdotes which have been related on this point, if they were not, in general, authenticated in such a way as to preclude scepticism.

In the latter part of the last century, one Bisset, a native of Perth, by trade a shoemaker, having applied himself with great perseverance to the teaching of animals, succeeded in making a set of cats play in harmony on the dulcimer, uniting their voices to the tones of the instrument; and this singular orchestra was exhibited, to the perfect satisfaction of the public, for a succession of nights, in the Haymarket theatre. He it was who trained that "learned pig," of which our fathers used to speak so highly, the animal having been exhibited in every part of the empire. At a somewhat earlier period, a Saxon peasant boy trained a dog to the pronunciation of words. The boy had observed in the dog's voice an indistinct resemblance to certain sounds of the human voice, and was thus prompted to endeavour to teach him to speak. The animal was three years old at the beginning of his instructions, a circumstance which must have been unfavourable to the object; yet, by dint of great labour and perseverance, in three years the boy had taught it to articulate thirty words. It used to astonish its visitors by calling for tea, coffee, chocolate, &c.; but it is proper to remark, that it required the words to be pronounced by its master beforehand, and it never appeared to become quite reconciled to the exhibitions which it was forced to make. The learned Leibnitz reported on this wonderful animal to the French Academy, attesting that he had seen the dog and heard it speak; so that there does not appear the slightest ground for doubting the fact, such as it was. All doubt on the

question of possibility may, indeed, be considered as set at rest by the recent exhibition of the educated dogs in London—animals that could play at dominoes and chess, and even indicate when their adversaries made false moves. These creatures were visited and *played with* by thousands, and we never have heard that a deception of any kind as to the reality of their acquired powers was detected.

Laying aside such extraordinary examples as these, the ordinary training conferred on horses, dogs, and other domesticated animals, seems to be sufficient to establish the general fact of animal educability. We have no more forcible illustrations of the principle than in the uses which are now made of certain of the canine tribe in rural sports. The pointer, setter, springing spaniel, and all that class of dogs, are understood to be descended from one stock, the Spanish spaniel, with a slight crossing from the fox-hound, for the sake of improving the speed. The original animal may be considered as a record of the original powers, to which every thing else must be regarded as an addition made by human training. Now, the original animal is only gifted by nature with a fine scent for game, and a disposition to make a momentary pause on seeing it, for the purpose of springing upon it*. Man has converted this inclination to a temporary pause into a habit of making a full stop ; and the animal, instead of gratifying his destructive tendency by flying upon the game, has been trained to be contented with witnessing a vicarious execution by the gun of his master.

It is a mistake to suppose that only the spaniel tribe is capable of serving sportsmen in the capacity of pointers and setters. There are other classes of dogs which perseverance would enable, to a certain extent, to act in the same way. Gervase Markham, who wrote on sports in the sixteenth century, speaks of having seen dogs of the bastard tumbler kind adapted to act as setters, though not so well as those of the spaniel kind. Mr. Blaine is of opinion that this power can be cultivated in most dogs†. It has even been elicited in another and very different class of animals—the hog. Some years ago, Mr. Toomer, gamekeeper to Sir Henry Mildmay, bethought him of teaching a pig to act as a pointer, having been struck by the scenting powers of the animal in its search for palatable roots under ground. He began by allowing a young female pig to accompany his pointers in their breaking lessons to the field. Within a fortnight, to his own surprise, she was able to hunt and point partridges and rabbits.

* Thoughts and Recollections, by one of the Last Century. London. Murray. 1825.

† Encyclopedia of Rural Sports, 792.

There being an abundance of these creatures near the keeper's lodge, her education advanced rapidly by frequent exercise, and in a few weeks she was able to retrieve game as well as the best pointer. *Slut*, as this extraordinary animal was called, was considered to have a more acute scent than any pointer in the charge of the keeper, and his was a kennel of the highest character. They hunted her principally on moors and heaths; and it often happened, that, when left behind, she would come of her own accord and join the pointers. "She has often stood a jack snipe when all the pointers had passed it: she would back the dogs when they pointed, but the dogs refused to back her until spoke to—Toomer's dogs being all trained to make a general halt when the word was given, whether any dog pointed or not, so that she has been frequently standing in the midst of a field of pointers. In consequence of the dogs being not much inclined to hunt when she was with them (for they dropped their sterns, and shewed symptoms of jealousy), she did not very often accompany them, except for the novelty. Her pace was mostly a trot; she was seldom known to gallop, except when called to go out shooting; she would then come home off the forest at full stretch, and be as much elated as a dog at being shewn the gun. She always expressed great pleasure when game, either dead or living, was placed before her. She has frequently stood a single partridge at forty yards' distance, her nose in a direct line to the bird: after standing some considerable time, she would drop like a setter, still keeping her nose in an exact line, and would continue in that position until the game moved: if it took wing, she would come up to the place, and draw slowly after it; and when the bird dropped, she would stand it as before*."

These facts, together with what common observation presents to us in domesticated parrots, blackbirds, ravens, magpies, monkeys, &c., place the educability of animals upon a basis, in our opinion, not to be shaken. But the most wonderful thing, and the most convincing part of the proof, remains, in the fact of the transmission of *acquired qualities* by animals to progeny. The habit which education has conferred upon the pointer appears in his puppy, who may be seen earnestly standing at swallows and pigeons in a farm-yard, before he has ever once seen such a thing done by his seniors, or received the least instruction. Here only the object is amiss; the act itself is perfect. As may be readily supposed, the puppy of a race of English pointers can be trained to the whole business of the field in one-tenth of the time which the most experienced breaker would require to effect any improvement upon the simple instinct of *the pause* in an original Spanish

* Daniel's Rural Sports.

spaniel. On the subject of the hereditary transmission of acquired qualities by animals, we have some curious information from the venerable naturalist Mr. T. A. Knight.

In a communication to the Royal Society, in 1807, Mr. Knight remarked the disposition of bees to seek for cavities in trees, where such existed, as places to swarm to; and surmised, that their taking up with the hives offered them is a result of domestication, which becomes inherent in those which have for several generations been under the care of man. To support this view, he cited several other instances of domesticated animals inheriting the acquired habits of their parents. "In all animals," he says, "this is observable; but in the dog it exists to a wonderful extent; and the offspring appears to inherit not only the passions and propensities, but even the resentments, of the family from which it springs. I ascertained that a terrier, whose parents had been in the habit of fighting with polecats, will instantly shew every mark of anger when he first perceives the scent of that animal, though the animal itself be wholly concealed from his sight. A young spaniel brought up with the terriers shewed no marks of emotion at the scent of the polecat, but it pursued a woodcock, the first time it saw one, with clamour and exultation: and a young pointer, which I am certain had never seen a partridge, stood trembling with anxiety, its eyes fixed, and its muscles rigid, when conducted into the midst of a covey of those birds. Yet each of these dogs are mere varieties of the same species, and to that species none of these habits are given by nature. The peculiarities of character can therefore be traced to no other source than the acquired habits of the parents, which are inherited by the offspring, and become what I call *instinctive hereditary propensities.*"

It appears from another communication made by Mr. Knight to the same society in 1837, that he had then been pursuing investigations on this subject for nearly sixty years. He proceeds in that communication to give a general account of his investigations. "At the period," he says, "at which my experiments commenced, well-bred and well-taught springing spaniels were abundant, and I readily obtained possession of as many as I wanted. I had at first no other object than that of obtaining dogs of great excellence; but within a very short time, some facts came under my observation which very strongly arrested my attention. In several instances, young and wholly inexperienced dogs appeared very nearly as expert in finding woodcocks as their experienced parents. The woods in which I was accustomed to shoot did not contain pheasants, nor much game of any kind, and I therefore resolved never to shoot at any thing except woodcocks,

conceiving that, by so doing, the hereditary propensities above-mentioned would become more obvious and decided in the young and untaught animals; and I had the satisfaction, in more than one instance, to see some of these find as many woodcocks, and give tongue as correctly, as the best of my older dogs.

Woodcocks are driven in frosty weather, as is well known, to seek their food in springs and rills of unfrozen water, and I found that my old dogs knew as well as I did the degree of frost which would drive the woodcocks to such places; and this knowledge proved very troublesome to me, for I could not sufficiently restrain them. I therefore left the old experienced dogs at home, and took only the wholly inexperienced young dogs; but, to my astonishment, some of these, in several instances, confined themselves as closely to the unfrozen grounds as their parents would have done. When I first observed this, I suspected that woodcocks might have been upon the unfrozen ground during the preceding night; but I could not discover (which I think I should have done had this been the case) any traces of their having been there; and as I could not do so, I was led to conclude that the young dogs were guided by feelings and propensities similar to those of their parents.

The subjects of my observation in these cases were all the offspring of well-instructed parents, of five or six years old or more; and I thought it not improbable that instinctive hereditary propensities might be stronger in these than in the offspring of very young and inexperienced parents. Experience proved this opinion to be well founded, and led me to believe that these propensities might be made to cease to exist, and others to be given; and that the same breed of dogs which displayed so strongly an hereditary disposition to hunt after woodcocks, might be made ultimately to display a similar propensity to hunt after truffles; and it may, I think, be reasonably doubted whether any dog having the habits and propensities of the springing spaniel would ever have been known, if the art of shooting birds on the wing had not been acquired.

I possessed one young spaniel, of which the male parent, apparently a well-bred springing spaniel, had been taught to do a great number of extraordinary tricks, and of which the female parent was a well-bred springing spaniel: the puppy had been taught, before it came into my possession, a part of the accomplishments of its male parent. In one instance I had walked out with my gun and a servant, without any dog; and having seen a woodcock, I sent for the dog abovementioned, which the servant brought to me. A month afterwards, I sent my servant for it again, under similar circumstances, when it acted as if it had inferred that the track by which the servant had come from

me would lead it to me. It left my servant within twenty yards of my house, and was with me in a very few minutes, though the distance which it had to run exceeded a mile. I repeated this experiment at different times, and after considerable intervals, and uniformly with the same results, the dog always coming to me without the servant. I could mention several other instances, nearly as singular, of the sagacity of this animal, which I imagined to have derived its extraordinary powers in some degree from the highly-cultivated intellect of its male parent."

Mr. Knight states, that in sixty years he had observed the woodcock tribe become much more shy and wild than it formerly was, the result, he conceives, of "increased hereditary fear of man." This is certainly a result in conformity with the difference observed between birds in general in peopled and unpeopled countries, the former being shy from the youngest period of life, while the latter are tame and unsuspicious at all periods, until they become acquainted with the destructive propensities of man.

Mr. Knight adds a few more cases, which he describes as but a sample of a vast number equally remarkable. We can only afford room for one, relating to a young dog of the variety called retrievers. He obtained a puppy of this breed, a month old, from a distant county, and said to be descended of a very well-bred family. "I had walked," he says, "up the side of the river which passes by my house, in search of wild ducks, when the dog abovementioned followed me unobserved, and contrary to my wishes, for it was too young for service, not being then quite ten months old. It had not received any other instruction than that of being taught to bring any floating body off a pond, and I do not think that it had ever done this more than three or four times. It walked very quietly behind my gamekeeper upon the opposite side of the river, and it looked on with apparent indifference whilst I killed a couple of mallards and a widgeon; but it leaped into the river on the gamekeeper pointing out the birds to it, and brought them on shore, and to the feet of the gamekeeper, just as well as the best instructed old dog could have done. I subsequently shot a snipe, which fell into the middle of a large nearly stagnant pool of water, that was partially frozen over. I called the dog from the other side of the water, and caused it to see the snipe, which could not be done without difficulty; but, as soon as it saw it, it swam to it, brought it to me, laid it down at my feet, and again swam through the river to my gamekeeper. I never saw a dog of its age acquit itself so well, yet it was most certainly wholly untaught."

To conclude with dogs. A gentleman of our acquaintance, and of scientific acquirements, obtained some years ago a pup

which had been produced in London by a female of the celebrated St. Bernard's breed. The young animal was brought to Scotland, where it was never observed to give any particular tokens of a power of tracking footsteps until winter, when the ground became covered with snow. It *then* shewed the most active inclination to follow footsteps; and so great was its power of doing so under these circumstances, that, when its master had crossed a field in the most curvilinear way, and caused other persons to cross his path in all directions, it nevertheless followed his course with the greatest precision. Here was a perfect revival of the habit of its Alpine fathers, with a degree of speciality as to external conditions, at which, it seems to us, we cannot sufficiently wonder.

The principle of what may be called a transmission of domesticated habits is to be observed in other animals. "English sheep, probably from the richness of the pastures of that country, feed very much together; while Scotch sheep are obliged to extend and scatter themselves over their hills for the better discovery of food. Yet the English sheep, on being transferred to Scotland, keep their old habit of feeding in a mass, though so little adapted to their new country: so do their descendants; and the English sheep is not thoroughly naturalised into the necessities of his place till the third generation. The same thing may be observed as to the nature of his food that is observed in his mode of seeking it. When turnips were first introduced from England into Scotland, it was only the third generation which heartily adopted this diet, the first having been starved into an acquiescence in it*." The Norwegian pony is accustomed in his own country to obey the voice of his master, rather than the bridle; accordingly, when English-born progeny of this animal is taken in hand by a breaker, unusual difficulty is found in what is called *giving it a mouth*, although it is singularly docile and obedient. In Norway, the pony is accustomed to traverse unenclosed and almost pathless wilds; accordingly the English-born progeny has no idea of such a thing as enclosures, and will be seen brushing through a hedge with the greatest coolness, as if no such thing were in its way. We have also been informed that the progeny of an American horse, introduced into England, ambles as American horses generally do, a kind of walk to which the English horse can only be trained with difficulty; and the same thing is observed as to the habit which the Irish horses have of leaping with their whole four feet off the ground at once, a movement occasioned by the numerous bogs which come in the way of an Irish horseman. This is a mode of

* Thoughts and Recollections.

leaping to which it would be as difficult to train an English foal, as it would be to prevent an Irish one from adopting it.

We thus see that not only does what metaphysicians call the *law of habit* exercise a sway in the intellects of animals, but that modification which takes place in human communities, and passes under the comprehensive name of civilization, also affects the lower tribes of creation. A race of animals, like a race of men, is civilizable; and we cannot doubt that the same softening influences which have produced the advanced nations of Europe have operated upon the animals existing in the same countries, and made them very different from what they were in early times. It cannot escape remark, that the whole principle of civilization acquires strength from having its basis thus widened. We become the more confident in the improvability of our own species, when we find that even the lower animals are capable of being improved, through a succession of generations, by the constant presence of a meliorating agency.

Chambers's Journal.

NEPHRITIS AND PARAPLEGIA, COMPLETE OR INCOMPLETE, ATTRIBUTABLE TO SANGUINEOUS CONGESTIONS.

By M. Berger, *M. V. to the 5th Regiment of French Dragoons.*

Between the 20th of February and the 22d of March, seven or eight draught horses, as well in town as in the country, have been attacked by sudden palsy, when they have been drawing a hackney chariot, or some similar vehicle. All of them have died in a greater or less space of time, and generally in six days from the first attack. Three of these horses were seen by us. On this very day, March the 28th, some have died both in and out of the city. Others have been seen by M. Mannachas, a veterinary surgeon in the town, and by his colleagues. They were strongly-built horses, in high condition, and plethoric. Some of them fell almost as soon as they issued from the stable, others after going a long journey, or experiencing considerable fatigue. Not one of them had eaten from the time that they left the stable, until they were attacked by this paralytic affection. They fell at once, and before their death discharged from time to time a quantity of urine, varying in intensity of colour from brown to almost black. The breathing, as well as the circulation, was considerably disturbed—they had painful tenesmus, and

they made violent but ineffectual endeavours to rise. They cried and groaned continually—they were covered by a cold sweat—yet, sometimes, they retained their appetite. The intensity of the symptoms increased, until death soon closed the scene.

M. Mannachast, who has seen a great many cases, and has had much opportunity to study the disease, considers it to be almost invariably mortal, and that no medicine has been of essential service. In several examinations, carefully conducted by him, the envelopes of the spinal cord at the lumbar portion contained a considerable quantity of serosity of a citrine colour, and somewhat gelatinous. He considered the pressure of this fluid to be the cause of death. Sometimes, but more rarely, he found an effusion of blood in these regions.

At the same time many horses, well fed and hardly worked, died, in consequence of gangrenous perforation of the posterior extremity of the colon on some part of the rectum.

The symptoms were extreme anxiety during the whole period of the disease, with very short remissions—laborious respiration, precipitate and short—the pulsations of the artery and the beatings of the heart isochronous with the movement of the flanks—the eyes protruding from their orbits—the alæ of the nose expanded and fixed—obstinate constipation—violent efforts to evacuate the fæces, but without any being expelled—the anus hot and projecting—infiltration, in many cases, through the peritoneum, the sheath, and the integument of the thighs—cold and abundant sweating from these parts—stiffness of the loins—the penis protruded and pendant—violent efforts to void a few drops of brown-coloured urine—impossibility of retaining the smallest quantity of fluid injected into the anus. The patients were continually looking at their flanks—lying down, and getting up again immediately—when up, they walked with tolerable ease—their loathing of food was intense—the attack of the disease was sudden, and its progress rapid. Death occurred in 24, or 48, or, at most, 72 hours. All treatment was useless.

The post-mortem appearances were gangrene of all the membranes of one part of the floating portion of the colon or the rectum, as large as a hand or more, and a citrine serosity variable in quantity in the abdomen—the peritoneum and mesentery were of a deep red, with a slight tint of yellow—the cortical substance of the kidneys was softened, and of a deep black colour externally—the ureters, the bladder, and the urinary canal, were in a normal state.

Such were the circumstances which attended the progress of the disease in the town and neighbouring country; but the malady soon began to attack the horses in our regiment.

Case I.

Intensely acute Nephritis terminating in Gangrene.

A grey Norman horse, fourteen years old, of a nervous, sanguine temperament, and in extraordinary good condition, belonged to Captain Bouchard. He was seldom ridden by his owner, but was exercised for half an hour or an hour by a dragoon. In his food, he was invariably submitted to the regimental mode of treatment, which was deemed to be quite sufficient, considering the little exercise that he had.

He was taken ill on the morning of the 22d of February, 1839. The soldier who had the care of him stated that he had formed the habit of moving about his hind legs when he was dressed, and that he had lately agitated them more frequently and more rapidly. When he was mounted he lifted his hind legs higher than he was accustomed to do, and in an evident spasmodic way.

The horse had always fed well, but his attendant had observed that for a considerable time he had urined with difficulty, and always in the sheath—the eyes had a wild appearance—the head was elevated—the pulse and exterior temperature were natural—the posterior extremities widened, and the left one principally. At irregular intervals he beat the ground with his two hind feet, and that with so much force that it was somewhat dangerous to come near to him. Even when he was calm and tranquil the violent beating would commence, if the hand was placed upon his haunches. If any person attempted to lift one of his legs he immediately lay down, and it was dangerous to stand near to him. He still retained a good appetite. There was no symptom of fever—the respiration was perfectly calm—and the pulse was full, yet soft.

Diagnosis.—Irritation of the urinary passages, with a slight obstacle to the passage of the urine. No present danger.

Treatment.—Gruel and emollient injections. The dragoon who had the charge of him was ordered to lead him about for an hour, and to clear his sheath, which had not yet been done. Five pounds of blood were abstracted from the left jugular, which was rich in fibrine. In the evening some thin gruel was offered to him, but he would not touch it. He appeared to be perfectly quiet. His countenance did not announce any suffering, and no one expected any disturbance being near at hand.

At midnight we were called, and informed that a sudden and fearful change had taken place: he was beating the ground with his feet, as if he would tear off his shoes—he shook himself, and snorted every minute—he sat on his haunches like a dog—his breathing was disturbed—the submaxillary artery was hard and

rolling under the finger—and the pulsations although frequent, could scarcely be felt—the mucous membranes were of a pink colour.

He was led into the infirmary. As he walked thither, he staggered—his hind legs were wide apart—they were supported by the toes only—his hocks were turned outwards—his steps were short and quick—he got into a trot without our attempting to quicken his paces.

We took away six pounds more of blood, which did not coagulate so quickly as before.

Diagnosis.—Inflammation of the urinary passages, and particularly of the kidneys.

Symptoms.—He bows himself often to void urine, but cannot effect it. His efforts to void his dung were frequent and painful: he groaned with pain, but could not accomplish his object.

Treatment.—A pint and a half of sweet oil with other emollients were given by the mouth, and by injection. A poultice occupied the whole of the lumbar region and the flanks; and this was assisted by emollient fomentations. This exacerbation of symptoms passed away, and during the remainder of the night he was quiet.

23*d.*—Towards six in the morning all these fearful spasms returned. He again pawed violently—his breathing and circulation were disturbed—he pushed himself against the wall by which he stood—he kicked with so much fury, that he tore the shoe from his left fore-foot—the side on which he was most agitated, and the limb that was most removed from the centre of gravity—the body was inclined and bent to the left—the animal was continually gazing on his flank. The slightest touch of his flanks, or the genital organs, caused violent but ineffectual efforts to urine or to dung.

Treatment.—Six pounds more of blood were abstracted, which produced a momentary calm, and during which the animal was back-raked, an operation that could not be performed yesterday, on account of his violence. The expulsive efforts were so great, that we could only reach the middle of the rectum, by availing ourselves of the moment when he ceased his violent efforts to expel something from the rectum. A great degree of heat was felt within the rectum. A few dung-balls were extracted. The membrane around the rectum was infiltrated and tumefied, and the internal mucous membrane of the rectum was slightly tumefied.

Continue the treatment as before.

No injection could be retained, however small might be the quantity of it.

At eight o'clock, he ejected nearly an ordinary wineglass-full

of brown-coloured urine. After that he voided some dung with considerable effort, but this did not afford him any relief.

From that time until his death, the symptoms which have already been described returned, and more frequently as the strength of the animal wore away—he became covered once more with a cold sweat—he tumbled sometimes on the right side, and sometimes on the left—he looked round continually at his flanks, placing his muzzle on the space between his girths—his respiration was short and precipitate—the alæ of his nostrils were expanded and immoveable—the pulse was precipitate, the artery being hard and small, and rolling under the finger. When he was down, he endeavoured to roll himself upon his back; and when his prepuce was touched, he immediately commenced the most extraordinary expulsive efforts.

24*th*.—After another violent return of these dreadful symptoms, we bled him a fourth time, and subtracted four pounds of blood, and again with a slight remission of the symptoms. The eyes of the animal were still glancing in every direction—his ears were in constant motion, even when he was lying down. About mid-day he voided a pint of urine, and a considerable quantity of dung-balls were also evacuated, although with considerable difficulty. He walked very feebly, and abundant sweats again broke out on his groin, his sheath, and abdomen.

25*th*.—He was quiet during the night, but about five o'clock in the morning his pains recommenced. In order to obtain some relief from his sufferings, we once more bled him, and the abstraction of four pounds more gave him the usual relief. At length came an almost total prostration of strength. The pulse was totally gone, and universal and intense cold speedily followed. He still contrived to raise himself, and then fell again—he looked deploringly at his flanks—his respiration was as frequent as his pulse, of which we could no longer feel the beating: the cold sweat continued, and at half past eleven o'clock at night he died.

We opened him at three o'clock on the following afternoon, the carcass having been placed on its back from the time of the death of the animal.

The digestive organs were perfectly sound, and so was the bladder, the ureters, and the urinary canal; but the kidneys were not more than two-thirds of their natural size, and were surrounded by a mass of fat. They were as black as ink, softened at their edges, and almost falling in pieces by their mere weight. The cortical substance was in a state of decomposition, but the pelvis was not sensibly affected in either. The right kidney was more disorganized than the left one. There were no lesions in any of the other organs, whether accessory or secondary.

[To be continued.]

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THE

VETERINARIAN.

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LECTURES ON HORSES.

By WILLIAM PERCIVALL, *M.R.C.S., Veterinary Surgeon First Life Guards.*

LECTURE IV *(continued).*

THE SHOULDER *(continued).*

WE must not think of quitting this subject until we have profitted by the brilliant lights that have been incidentally cast upon it by one of the greatest physiologists and discoverers of the age in which we live,—the late Sir Charles Bell. Every one is acquainted with those interesting and beautiful productions, "The Bridgewater Treatises," among which, as one link in the series, stands the work from which we are about to make extracts that will confer pre-eminent richness upon our present field of investigation.

After observing that, in the horse and other quadrupeds, with few exceptions, the connexion between the extremity and the trunk is solely through muscles; and that in the horse, as in most quadrupeds, the speed results from the strength of the loins and hinder extremities, Sir Charles continues, "Were the anterior extremities joined to the trunk firmly, and by bone, they could not withstand the shock from the descent of the whole weight thrown forwards; even though they were as powerful as the posterior extremities, they would suffer fracture or dislocation. We cannot but admire, therefore, the provision in all quadrupeds whose speed is great, and whose spring is extensive, that, from the relative position of their bones, they have an elastic resistance, by which the shock of descending is diminished."

"If we observe the bones of the anterior extremities of the horse, we shall see that the scapula is oblique to the chest; the humerus oblique to the scapula; and the bones of the fore-arm,

(called by us the *arm*) at an angle with the humerus. Were these bones connected together in a straight line, end to end, the shock of alighting would be conveyed through a solid column, and the bones of the foot or the joints would suffer from the concussion. When the rider is thrown forwards on his hands, and more certainly when he is pitched on his shoulder, the collar-bone is broken, because, in man, the bone forms a link of connexion between the shoulder and the trunk, so as to receive the whole shock; and the same would happen in the horse, the stag, and all quadrupeds of great strength and swiftness, were not the scapula sustained by muscles, and not by bone, and did not the bones recoil and fold up."—"Much of the strength, if not the freedom and rapidity of motion, of a limb, will depend on the angle at which the bones lie to each other; for this mainly affects the insertion, and, consequently, the power of the muscles. We know, and every moment feel, that when the arm is extended we possess little power in bending it; but as we bend it the power is increased, which is owing to the change in the direction of the force acting upon the bone, or, in other words, because the tendon becomes more perpendicular to the lever."

We have already shewn that the scapula possesses a rotatory sort of motion upon the ribs, and that the sphere of its motion becomes increased by its degree of obliquity. Sir C. Bell has explained the cause of this—"the serratus muscle"—the fleshy attachment of the scapula to the trunk, and the means through which the latter is suspended—"when the scapula is oblique, has more power in rolling it." Other muscular advantages likewise accrue. "When the scapula lies at right angles with the humerus, the muscles which are attached to the latter act with more effect. And on the same principle, by the oblique position of the humerus, and, consequently, its obliquity in reference to the radius and ulna, the power of the muscle inserted into the olecranon is increased. On the whole, both power and elasticity are gained by this position of the superior bones of the fore leg. It gives to the animal that springs a larger stretch in throwing himself forward, and security in a soft descent of its weight."

Sir Charles has admirably illustrated by sketches contrasting the fore extremity of the skeleton of the elephant with that of the camel, that the former is evidently constructed for strength, the latter for spring and speed: pillars of bones, like stone columns, standing in upright positions are evidently intended to support weight, movement being a secondary consideration; on the other hand, bones arranged in regard to each other in zigzag or oblique directions, are adapted for movement and spring, ability to carry weight being the secondary consideration. This point has been

already illustrated by comparisons between the upright shoulders of dray-horses, and the oblique ones of thorough-breds.

Let us now pass to

THE ARM.

Anatomists and horsemen will find themselves at variance concerning the part to which this appellation is applied. The anatomist regards the *humerus* as the bone of the arm: the horseman calls that part "*the arm*" which extends from the elbow to the knee; and incongruous and, to the anatomist, confusing as these appellations, *arm* and *knee*, are, yet has custom so established their use among horse people that we dare not refuse to adopt them. The horseman's arm, consequently, becomes the anatomist's *fore-arm:* the *humerus* or proper arm being incorporated with the shoulder, from the circumstance of the horse not being provided, as a man, and a monkey, and some other beasts are, with those little bones whose use is to set the arms off from the shoulders—the *clavicles* or collar-bones.

The arm of the horse, the same as our own fore-arm—to which, I repeat, it corresponds—has in its composition two bones, the *radius* and the *ulna;* but with this difference, that in man and the monkey, and also in some quadrupeds, the ulna is a separate bone of equal length with the radius; whereas in the horse it is nothing more than an attachment to the radius, the medium of union between them being in the young animal, and indeed up to the adult period, an elastic (cartilago-ligamentous) substance, which yields to force, and thus in action serves the purpose of a spring diminishing concussion. Indeed, this appears to have been one reason why the ulna was not extended to the knee-joint: had it been a separate bone no such spring could have existed. At full growth, however, or very soon after, the uniting elastic matter becomes converted into bone, consolidating the ulna with the radius, and for ever destroying the original spring.

At the superior part the ulna enters into the composition of the elbow-joint, the same being the part which protuberates backward and forms the elbow. Thus placed and fashioned, the ulna answers two important uses: one is, extension of the surface of the joint and limit to its motion backward, by serving as a stop to it; the other is the leverage it offers for the insertion of muscles whose office is to extend the fore-limb. The advantages derived from long and prominent elbows are precisely such as are afforded by length of lever in any situation out of the body: providing the weight to be lifted and the lifting forces to remain the same, the power of the latter will be increased in direct ratio with the length of the lever—the elbow; and considering that the operation of these muscles though immediately upon the arm, extends all the

way to the foot, a long lever may make a difference of some pounds even in the capabilities of the fore-limb. So far as progression is assisted by the fore extremities, it is by the action of the powerful muscles inserted into the elbows: while the flexors of the arm have only to lift the limb off the ground and advance it, the extensor muscles—attached to the elbow—have, the moment the foot is grounded, to aid in the grand operation of progression. We see, then, the necessity for long and prominent elbows. Some horses appear as if they had no elbows: the protuberances are either so short or stand so upright, that they are not perceptible to the eye, and can hardly be felt; which I look upon, myself, as a great deficiency, though it is one that, even by "judges," is not at all times noticed. People invariably pay great attention to hocks; but seem to overlook elbows; as I said before, however, for my own part, I do think that length and form of elbow is a point of considerable importance, and as such, I never lose sight of it.

At mature age, the arm of the horse is composed of a single bone—the *radius:* the ulna being, in truth, but a process. And the radius is a bone of superior strength, its great length, with the weight and shocks, and muscular action it has to sustain, requiring that it should be so. Two smaller bones of the same length would have been too liable to fracture. Entering into the structure of the fore limb are two long straight shafts of support: the radius constitutes the uppermost of these, the cannon or leg bone the undermost; all the other supporters being angularly disposed.

The radius in itself, however, is not a mathematically straight bone: between one extremity and the other it is slightly curved, after the manner of a bow, the convexity of which is presented forwards; so that were it placed upon a table or any level surface, with its hinder part turned downward, it would form a very extended arc; and this shape it is which renders it remarkable beyond any other bone in the horse. Thus fashioned, as a column of support it is capable of sustaining greater weight, or at all events greater shocks, from a property, which as a sort of bow it must possess, of elasticity. What are called "calf-legs" do not arise from any deficiency of this bow of the radius, but from peculiar formation of the knee-joints.

Superiorly, the radius is connected with the humerus, the nature of the joint formed between them being such as admits of flexion forwards and again of extension, but neither of flexion backwards nor of any lateral motion. A horse has the power of advancing his arm, and raising it rather beyond the line of right angle with his body; but he cannot bend it in a backward direction: the limb is extended backward through the motion of the humerus on the scapula. Had the elbow-joint moved backward as well as forward, the animal must have been so insecure upon his legs, that

constantly while in action, and even while standing still, he must have been in danger of falling, from his legs "slipping under him:" for the standing posture is only surely maintained by the continued action of the muscles implanted into the elbow.

[To be continued.]

CASES OF PALSY.

By Mr. John Younghusband, *Greystoke.*

On the 24th May, 1842, I was requested to give my advice respecting a fine four-years-old cow of the short-horned breed, that had completely lost the use of her hind legs. On seeing my patient, and inquiring into the case, I learned that three weeks before she had gone through the process of parturition, and which had been difficult. Her udder was at that time extremely full, hard, and swollen, in which state it remained for two days, although she ate and ruminated well. On the third day she appeared more debilitated—her udder shrunk from its hardness—the secretion of milk stopped—she ceased to feed—and gradually lost the use of her hind parts, although she still retained it over her fore ones. In this state she was several times visited by a practitioner in the neighbourhood, who prescribed for her, and covered her loins with pitch and tar, and encouraged the owner by saying that in a short time she would be up again.

To make the case short, I told him that I considered it one of palsy of the hind extremities, from the effects of difficult parturition, or, perhaps, from the sudden relaxation of the udder, the milk flying to more important parts, and that I considered her recovery as very doubtful.

He encouraged me, however, by saying he would give her the benefit of a trial. In our after treatment I tried purging, stimulants, external applications, and that great auxiliary, comfort. These failing, as a last resource, I resolved upon trying the effects of strychnine, which I gave twice a-day in five-grain doses, combined with aromatics and stimulants, and continuing it for awhile; but it shewing no marked effect, I increased it to eight grains, when, perhaps, from the effects of the stimulants, the appetite improved; she seemed more cheerful, ruminated regularly, and by the use of her fore legs could turn over. I now thought there was some faint hope of recovery, but our hopes are often delusive. We continued the use of the remedy a week longer, when no amendment taking place and the animal get-

ting sadly excoriated from crawling about, the owner said he would have her shot, and with this I readily acquiesced.

Post-mortem Appearances.—In the first place, I have to regret that it was late in the evening, so that I could not pursue my examination so far as I could have wished; and, secondly, that I allowed her to be shot, so that I could not have an opportunity of examining the brain.

On laying open the abdominal parietes the most important object that attracted my attention was the large size of the uterus, which seemed almost ready to burst from distention. In the removal of that viscus (accidentally) a puncture was made, from which I would say that two or three gallons of a brown purulent serosity escaped, giving forth a highly offensive vapour, and mixed with small coagula of blood. The whole substance of the uterus was in a high state of decomposition.

I next proceeded to examine the spinal canal, when both at the lumbar and sacral regions there was, at several of the vertebral joints, the same sort of purulent serosity. I did not perceive any of that bloody decomposed matter mentioned in your valuable Lectures on Palsy in Cattle; but there was a great quantity of thick yellow serosity surrounding the spinal marrow, and an evident softening of the marrow itself; also a few of the hard concretions attached to the membranes (mentioned in your work); the left kidney was much enlarged, and in a highly diseased state, also containing a small quantity of muco-purulent matter; the right shewed no trace of disease. The muscles of the loins and thighs were much wasted, and the parts surrounding the joints of the thigh and haunch of the left side were in a gangrenous state. The heart appeared much enlarged, but all the rest of the viscera were healthy.

Case II.—I had a case of palsy of the hind extremities in a six-months-old dog, it having lost all power over its hind legs, likewise voiding its dung and urine involuntarily; but at the same time it took what food was set before it, crawling about by the aid of its fore parts, and at times would make a great noise, as if howling for something that it wanted. I commenced this case by giving a sharp dose of the castor oil mixture, rubbing its loins well with anodyne liniment, with a few doses of the strychnine. In this case I was more successful; but whether from the effects of the mixture or the strychnine, I cannot say; but as soon as purging commenced the animal rallied and was soon convalescent.

Now, did the disease of the cow arise from the excitement of the difficult parturition, or the irritability of the udder communicated to more important parts?

A CASE OF HEPATIRRHŒA, ATTENDED WITH AMAUROSIS AND OTHER SINGULAR SYMPTOMS.

By Mr. W. C. Spooner, *V.S., Southampton.*

On the 9th of July last, I was requested to attend at the stables of Captain Breton, of this town, a carriage-horse, on account of a broken knee. The injury was occasioned six weeks previously, while travelling to London, and the horse had been left in a neighbouring town until a few days since, when he travelled home in the carriage, a distance of forty miles, without inconvenience or fatigue.

The injury had been rather severe, but the joint had not been opened, and my assistance was principally required on account of the knee presenting a rather deep lateral fissure, upwards of two inches in extent, and apparently through the new-formed substance. This fresh injury was stated to have occurred in the course of the last week; but previously to his journey home the wound was dressed, and the head was ordered to be tied up, so as to prevent, as much as possible, the bending of the knee, which would, of course, retard the healing of the wound. My attention was not called to any other circumstance: the horse was in good condition and spirits, and ate and drank as well as ever.

On the 11th I visited the horse again, and was rather struck with the aspect of the wound, which presented a concave appearance throughout its whole extent—not merely confined to the fissure, but both above and below it. On my first visit, finding the granulations on the borders of the fissure were too luxuriant, I applied some caustic application (I believe the sulphate of copper), and directed a little to be used on the following day in a similar manner. At first I was inclined to attribute the loss of substance to the too free application of the caustic; but the sequel of the case will much better explain the mystery. The wound was now dressed with a digestive application, over which a linseed poultice was placed.

On seeing the horse again on the 13th, I found that he had, on the previous evening, for the first time refused his food. The bowels were costive, the fæces cased in mucus, and the pulse accelerated, but distinct.

On approaching the horse, I found a considerable stiffness and rigidity of the muscles of the neck; the animal could not bend his head, and touching it produced considerable twitching, both of the head and neck.

I feared, from the character of the wound, and the strangeness and peculiarity of the symptoms, that tetanus was threatened;

but there was no impediment to the motion of the jaws. The mucous membranes, I should say, were rather pale, and the mouth was not hot.

The attention of the owner being called to the singularity and danger of the case, a moderate portion of blood was abstracted, and a powerful sedative and purgative administered.

In the evening I saw the horse again, but I found, altogether, no improvement, though the patient was eating vetches when I came to him. On turning him round, I discovered that he was entirely blind in the off eye. On holding a lighted candle to the eye, it proved totally regardless of its stimulus. Amaurosis was completely established. The blood that was taken in the morning I found dark, weak in its coagulum, and possessing a superabundance of serum of an opaque muddy hue.

The treatment already directed was pursued, and on the next morning, the coachman discovered that the horse was blind in both eyes; he had, however, eaten a tolerable quantity of green food in the course of the night, and, about eight o'clock in the morning, lay down.

Shortly afterwards the coachman left him to go to his breakfast, and previous to his return I visited the animal, but, on entering the stable, found him dead.

Such is a brief history of the case, presenting, certainly, some remarkable symptoms, which, although in some measure accounted for by the post-mortem appearances, were not rendered thereby otherwise than singular. I must confess that I did not expect to find the extensive lesions that were discovered, and I did not pretend to prognosticate the appearances that presented themselves. I mention this because I do not wish to arrogate the possession of that "remarkable species of divination which foretels an event that is going to happen after that event has really taken place."

Sectio cadaveris.—On opening the abdomen, a few hours after death, a bucketful of blood issued, which was found to proceed from an immense rupture in the liver. This organ, on removing it from the abdomen, presented a very singular appearance. At least half of its surface was black; this blackness being produced by large clots of blood, several inches in thickness, effused under the coat of the liver. This viscus, with the clots, weighed forty-three pounds, and its connexion with its investing membrane was nearly destroyed, for it could almost be turned out of its envelopment, as a nut out of a shell. The substance of this organ was of a pale yellow colour, and so softened and broken down that it could be readily scooped with a spoon.

The other abdominal and thoracic viscera were found in a healthy state; and on examining the brain, the only unhealthy

appearance exhibited was a small tea-spoonful of muddy serum pressing on the origin of the optic nerves.

The symptoms of the case could now be in great measure accounted for—death, of course, was occasioned by the large escape of blood into the abdominal cavity—the loss of substance on the wounded knee was probably produced by large effusion of blood exhausting the system, but which did not, probably, break through the investment of the liver. The weakness of the blood and its superabundance of serum is what we might expect to find after large losses of blood, the deficiency thereby created being made up by serous absorption; and this would induce the supposition, that these hemorrhages had been various and repeated. The amaurosis, too, was probably produced by the pressure of serum on the origin of the optic nerves*; and we know that serous effusion is the frequent consequence of extensive loss of blood.

The most extraordinary part of the case, however, and of greatest practical importance is, that, with this extensively disorganized liver, which must have been of considerable standing, the horse should, up to a few days prior to his death, have been apparently in excellent health and spirits, though he was nearly twenty years old, abounding with flesh, and, within a fortnight of his death, should have travelled a distance of forty miles, at the rate of eight miles an hour, without distress or difficulty.

LITHOTOMY IN A MARE—SACCULATION OF THE STONE.

From Mr. Robert Read, *V.S., Crediton.*

July 1*st*, 1842.—I was requested to attend a valuable thoroughbred brood mare that had laboured under an incontinence of urine during the last six months.

She exhibited the following symptoms. A continued dribbling of urine down the thighs, which were much excoriated; the bladder only capable of retaining a few ounces of urine, which was discharged with difficulty and pain, and the loss of ejectile power—the orifice of the vagina everted and excoriated—the

* In ascribing the amaurosis to the pressure of fluid on the origin of the optic nerves, I do so with much reservation, as it may be owing to these nerves, in common with the rest of the brain, being deprived of the necessary and accustomed stimulus, from the diminution in the quantity of vital fluid, or the impoverishment of its quality; and this view would be rather supported by the other cephalic symptoms manifested, and by the fact that amaurosis is not an unusual symptom of considerable hæmorrhage. Notwithstanding this, the existence of the fluid must not be lost sight of.

urine in no marked degree turbid or bloody—the muscles of the haunch and thighs wasted—the appetite bad, with general emaciation.

I hinted to the owner, Mr. Wreyford, that this might arise from one of two causes,—irritability of the bladder with paralysis, or stone. Accordingly I sent some alkaline and opiate medicine; and if no relief was afforded in the course of a few days, I determined to examine the bladder.

Before the expiration of a week, however, he called on me quite delighted, shewing me a stone which the mare had voided after taking a few doses of the medicine. It was a mulberry calculus, weighing nearly three ounces. Although this stone was voided through the urethra, the symptoms remained unabated. I therefore gave it as my opinion, that there was another in the bladder, and requested the mare to be sent in for my examination.

On the 15th July she was received into my establishment, and placed in a loose box.

I proceeded first to examine the bladder by means of the rectum, and discovered another calculus in the neck of the bladder. These cases being rare, I made both of my apprentices feel the stone in this situation for their instruction. I next explored the vagina. Its situation was plainly felt, from this passage being so much relaxed, both by the examination of myself and pupils. Lastly, I introduced my index-finger through the urethra, but found it stopped by the stone, which felt like a hardened fleshy tumour.

It then occurred to me that it must be encysted; and, having wound some tow over a sharp-pointed bistoury, I divided about two inches of the meatus urinarius, my assistant having his hand in the vagina to keep the stone firm against my finger. I made an incision on the tumour, and broke down the attachments of the cyst to the stone with my fore-finger, and extracted it. It was smaller than the one voided, weighing only two ounces. The stone voided per urethra was not of a large size. Many stones have passed through the female urethra in the human subject of much larger dimension.

From the first stone being some time passing through the neck of the bladder and urethram, and the forcible muscular contraction of the organ to expel them, no doubt some of the fleshy fibres were ruptured, into which the smaller stone became sacculated, and was the cause of their not both passing off by the urethral outlet.

A few ounces of blood only were lost by the operation, which lasted twenty-five minutes, including hobbling and casting.

After the operation, the pulse rose from 54 to 68, the animal

frequently stamping and lifting the hind legs, with frequent attempts to stale. Blood, and mucus, and urine, continued to pass involuntarily for the first few days, but, about the sixth day, the dribbling nearly ceased, and the bladder became capable of retaining more urine daily. No untoward symptoms supervened. The pulse, in about a week, became natural, and of a healthy tone.

The diet, for the first few days, was a thick mash of bran, twice a-day. The medicinal treatment, if you can so call it, consisted of small draughts of cold water three or four times a-day, which I consider the very best of febrifuges; also an occasional enema of tepid water.

This being a very valuable mare, and one which has produced many winning colts, Mr. Wreyford has a great wish to get another from her: I see no reason now why he should not. She is at grass, getting into good order, and full of spirits. She was taken to Stockbridge in the early part of the year, and put to a celebrated horse—I think, Camel; but was not stinted. She was then labouring under the disease, and no doubt that was the preventive; but as the irritability is now got rid of, and both the general and local tone restored, I see no reason for her not having another foal.

A CASE OF SPASMODIC ACTION OF THE DIAPHRAGM IN A PONY.

By Mr. W. Allison, *V.S., Washington.*

On the 24th day of June, I was called to attend a pony, the property of a neighbouring gentleman. On examining him, I found the following symptoms presenting themselves:—respiration regular, but a little hurried, but the same time that I was viewing the movements of the respiratory apparatus, I observed another peculiar catch or jerk, which the owner had also noticed. The pulse was more than 50, regular and soft. It having been bled previous to my arrival, as is too often the case in our country, we have not so fair an opportunity as we should otherwise have to form a true diagnosis of the disease.

With my finger on the pulse, and my eye on the flank of the near side, I observed that the jerk preceded the pulsation a little, and each kept quite regular at its respective distance. I placed my hand on the region of the heart, and found nothing abnormal. I had little difficulty in concluding that this was spasmodic action of the diaphragm. The pony seemed dull and dejected—saliva flowing from the mouth, which was also hot, and the lips

and cheeks were swollen. On examining the mouth and tongue, I found a considerable soreness.

The sore mouth accounted for the flow of saliva, but the cause of the soreness of the mouth I was still at a loss to explain.

Having made my examination, I began to institute some inquiry into the history of the case. I was told that it had been driven in a gig by two gentlemen, the day previous, about fourteen miles. In this I said there was nothing to harm it, if it was not driven too much against time. They affirmed that this had not been the case, but that it was driven home at a reasonable rate, and put into the stable, its usual quantum of food, &c., being given; but that it had not tasted food from the time that it was put into the stable.

I administered a laxative and ordered the legs, which were chilly, to be well hand-rubbed and bandaged. The patient was well supplied with gruel and mash, and kept as quiet as possible.

25*th*, 8 A.M.—Spasmodic action not so strong—pulse 60, and stronger—respiration a little more hurried—extremities cold—mouth not so sore. I was also informed that he had been trembling very much a little before my arrival. I now abstracted more blood. Five pints having been drawn, I found the pulse changing its character, and I therefore closed the orifice.

The laxative not operating, another dose of medicine was given, and an injection administered. Four hours afterwards another was given, and the legs lightly stimulated and bandaged. The mouth was occasionally washed with a saline lotion, and the diet was continued as before directed.

At 8, P.M., I found him in nearly the same state as I left him in the morning, with the exception of his legs having gained warmth: no more rigors were observed, and the bowels had been a little moved. He also had taken a little gruel for the first time.

26*th*, 8 A.M.—Found him in a more favourable way—breathing calm—pulse 50, soft and regular—a general warmth all over him—the spasmodic action nearly subsided—the medicines operating well, and he drinks his gruel more freely. Give him small doses of opium and camphor twice a-day, and wash the mouth three times a day with the solution already ordered: the gruel and mashes to be continued.

27*th and* 28*th*.—Still going on favourably. Continue the opium and camphor.

29*th*.—Still doing well. Discontinue the medicine. Let him be walked out a little, and fed moderately, until such time as he resumed his work, which was in the course of another week, and he has since done well.

This case being rather out of the common way, I was often

pressed to say what was the nature of the disease, and to what cause I attributed it. I told the owner that, in many instances, this spasmodic action, rigors, and disturbed breathing, &c. were caused by over-exertion, and that I could not help thinking that it had a little to do with it in the present case; but, as to the soreness of the mouth, it must have arisen from some other cause, and, if they made inquiry where the pony had been put up, they might, probably, discover some clue to the cause of the sore mouth. I have since learned that they did so. The pony had been put into a stall where some chemicals had been unpacked, and had, no doubt, been poking amongst the litter, where he had got something into his mouth, which had produced the soreness.

This being the first case of the kind that came under my notice, I frankly confess that I, at first sight, thought that it was palpitation of the heart; but there being no irregularity of the pulse, nor any unusual action to be felt in the situation of the heart, I was soon convinced as to the real nature of the disease, although it seemed rather strange to me that the breathing should be so little disturbed, when one of the principal muscles of respiration was so much affected.

VETERINARY SCIENCE DEFENDED AGAINST THE ASSAULTS OF CHARLATANISM.

By Mr. Thomas Greaves, *V.S., Manchester.*

"Mankind, in a state of ignorance, with little education, are credulous and fond of the marvellous; and there have not been wanting, in all ages, men to gratify that passion and turn it to their own advantage."

Error is the cause of man's misery. It is this which begets and cherishes within us many of the worst evils that afflict us, and we can never expect true and solid happiness but by a serious endeavour to avoid it. Mal-information is more dangerous and hopeless than non-information; for error is always more busy than ignorance. Ignorance is a blank sheet on which we may write, without much evil consequence, but error is a scribbled page, the contents of which we must first erase. It is almost as difficult to make a man unlearn his errors as to pursue the straightforward path of knowledge. Ignorance is contented to stand with its back to the truth, but error is more dangerously presumptive, and proceeds on still in the same dangerous path. Ignorance has no light, but error follows a false one. Even in this en-

lightened age, remarkable for its thirst after knowledge, there was never a period in which there prevailed greater or more numerous extremes of opinion. In fact, however, it is the lot of every country that has taken a forward step towards the advancement of civilization, to have repeatedly undergone a prevalence of extreme opposite opinions. This seems to be the indispensable price at which the progress of science is purchased. It is never by fits and sallies, but by steady and easy gradations, that its movements ensue, and not from several impulses operating collectively in one direction, but by a combination of opposing forces which direct its steps in the medium course.

Whatever they who are opposed to the acquirement of knowledge, and to the thorough and scientific education of a veterinary surgeon, may do or think in the case, no true friend of his profession would attempt to destroy existing modes of thought, or endeavour to disparage scientific institutions, unless he had means of replacing them by something better. Whether a man be in himself virtuous or vicious, he has no moral right to deal severely with our present mode of arrangement in veterinary instruction—at least, until he has himself put it fairly to the test, and tried the proposed mode of training upon his own senses, and by his own experience found them deserving of sarcasm or approbation. The real benefactors of mankind have always thought it their first duty to forward that which was calculated to be capable of advancing practical knowledge, and, in itself, contingently useful; and it is only when they have seen their way clear to the substitution of a better order of things, that they have endeavoured to break in pieces the present incongruous method of inquiry.

He who takes the mere accidents of a system for its essential qualities, and proceeds therefrom to argue and pour forth his wrath, may mislead the unwary, but cannot fail to make the judicious and thinking man either smile or grieve, or both. No man of reasonable, liberal, and rightly-directed mind, would take exceptions for examples. Such a man would justly forfeit all his claims to our confidence; nor has he any right to be considered an impartial or trust-worthy judge who has a tongue and an eye only for the faults and deficiencies of the accused. In the very extravagance of some notions, now pandering for popularity, the consequence will be twofold, viz. by depreciating in the estimation of every man of ordinary education the very system it was intended to elevate, and elevating the system it wished to annihilate. The more universally the cause of veterinary science is advanced, and the more extensive the establishment of true philosophy, the shorter will be the feverish state of that system whose confutation is in its own absurdity. The greater the

lengths to which charlatanism proceeds, the easier will be the task which reason, and the permanent interests of our profession, will have to perform.

Charlatanism under every possible form has been, and not merely once, "weighed in the balance and found wanting," but has again and again struggled to survive; yet, as civilization and knowledge have advanced, so in proportion has it lost its footing in the world; and whoever may review the life of the empiric, will find him the offspring of ignorance. Perverseness, stupidity, and presumption, have grown with his growth.

It may be asked, what I define an empiric to be. I would say, the man who ventures by rote, by habit, without scientific principle, and coming from the stable or the anvil, as the groom or blacksmith, to practise the veterinary art. Ninety out of every hundred of these persons are men of no education. Fifty out of every hundred cannot read or write. They are men who never had an opportunity to gain information—men who have no scientific character to lose. All sorts of persons are, now a-days, allowed, without the least discrimination or slightest restriction, to practise the art of veterinary surgery—men totally incapable of inductive reasoning, or who know, in scarcely a single instance, why they do what they do. Are such men as these, I would ask, to be trusted with that which forms so vast a portion of our common wealth? Are their respectability, education, and professional abilities, to be reposed in with implicit confidence? Is an art which abounds with intricacies and complications, in the forms of the most abstruse diseases—of the greatest possible difficulty to rightly understand or properly to treat, to be trusted to the non-educated, inconsiderate, and discreditable practice of the meanest and lowest grades of society? No; nothing short of abuse of language can, by any possible means, give the slightest show or the faintest taint of truth to this false and obtruded practice. Is not the simplicity of the credulous imposed upon? Do not the interests of society at large call loudly for a prohibitory measure? Is it not one that is absolutely necessary?

But why object to a college education? Is the student of necessity to abandon those notions he has long cherished, and held near and dear to his heart? No: he goes to college in order to gain that information which will enable him to choose at all times, and under all circumstances, the most suitable and most appropriate remedy. It is a place set apart solely for that purpose. It is the storehouse of veterinary knowledge. It is the central spring from which emanates the most genuine veterinary information. It is the grand labyrinth where mysteries are investi-

gated, truth elicited, and facts accumulated. Every scientific institution, and, in fact, every portion of science has been examined—not only in our own country, but every corner of the earth, and even the most valued and profound secrets of the farrier have been added to this store of knowledge. This is the spot where are placed men of ample education, of undisputed talent and ability, purposely to instruct and inculcate carefully and diligently the correctest and soundest principles of surgery; to initiate into the minds of the young information most suitable, and most likely to be of the greatest practical utility, and thus render them more valuable members of society. It is this place which is set aside from all others for the sole purpose of receiving the youth whose mind is thirsting after knowledge—disencumbered from every other care and trouble—with nothing else to think of, nothing to occupy his attention but the improvement of his mind—the pursuit of deep and honest study—the acquirement of knowledge—the accumulation of real facts, and the storing up in his mind the soundest, choicest, and most sterling information whereupon to act in future life.

Well; he occupies eighteen months of the most select period of his existence, when his capacity for the acquirement of knowledge is calculated to be the strongest, and his mind most readily directed to his subject—he attends three or four lectures a-day, and has explained to him in the plainest terms possible the secrets of nature and the mysteries of his art. He gains his experience from actual practice, from the observation of fifty to eighty patients daily—he is taught anatomy, physiology, and pathology, elementary chemistry, and materia medica, upon the soundest and most correct principles; in short, he is put in possession of knowledge of the greatest usefulness in after-life. He is enabled to give a why for every wherefore. He is enabled to consult with the human surgeon, and to converse with the most scientific men on the beauty and economy of nature, and still he is not disabled from discoursing with the more uneducated portion of society; of course, he can and does always suit his conversation to the company he is in, and can withhold terms and technicalities when dictated by circumstances and the non-requirement of them. But how is the bungling empiric, who can neither read nor write, contrasted with such a man? Which is most likely to be of the greatest benefit to society? The fact is obvious, but yet the empiric dares to say in his heart there is no advantage gained by such education; no improvement obtained by having his natural reason and genius surrounded and acted upon by such circumstances. Senseless man! Ask the heathen, and he shall tell thee—ask the savage of the most uncultivated

nations of the earth, yea, the trained beast of the field, and he shall shew thee—ask the refined, enlightened, and learned European, and he shall explain to thee the advantage—yea, to thee, who knowest not the solace and satisfaction of mind, the non-upbraidings of conscious inferiority derivable from a thorough knowledge of the profession thou pretendest to practise. But, to be lenient, where is the opportunity afforded the more enlightened and intelligent empiric, who blushes unseen in consequence of that natural genius of his not being acted upon or stimulated further than that of a school-boy's education?

But to be serious: I admit that there are a few untaught practitioners of good sound common sense, of diligent inquiry, moderate success; but who are these? Let us trace them, and we shall find each who is worthy of the slightest notice to have either served an apprenticeship to a college-educated veterinary surgeon, or have himself been to college and spent a few months and gained an outline of his profession, and learned a few cant technicalities; or, he may have tried it on still farther—he may have made an attempt to gain the honor of a people-gulling diploma, but, having failed, and his father not having been possessed of much wealth, he is compelled by pecuniary circumstances, or a sense of his own inferiority of capacity or want of education, to return home, to seek by nightly toil how a poor pittance is to be gained. Well, he commences practice as a qualified veterinarian; but to represent himself as possessing that which he has never gained—to assume a title which has never been bestowed upon him—to be conscious that he is not what he professes to be,—that is gross deceit. Why forge an appellation which he does not merit? But strange, ay, passing strange, we are told that the bulk of society appreciates the non-educated, mal-educated, the quack, the empiric, more than the truly educated man, especially if he is a graduate of any college, or disgraced with a diploma. But why, I would ask, do not these men acknowledge themselves to the world as they are? Why call themselves veterinary surgeons when they are not so, and especially when, as they say, that title is disgusting to any man of common discernment. The choice is their own. They would then be honest men: but no; they are aware it would be bad policy to do so, and this fact at once confutes *in toto* the grossness and absurdity of their assertions.

Whether the design of such publication be to deepen the discontent of the discontented, or to increase the disposition which exists on the part of some to render more intense and morbid the jealousies which subsist between the employer and employed, and to render still more evil the eye ever eager to look for contentions and increase dissension or otherwise, I know not; but

be it what it may, it is plain enough to any man that notions so bad in theory, and highly injurious in practice, may, for a time, and within narrow limits, live, supporting a precarious being on the corruptions and imperfections of the credulous portion of mankind. There is one thing we do know, at all events, that agitators of such topics as those which lately gained insertion in THE VETERINARIAN will not fail to reap the just recompense of reward in the condemnation which every virtuous and right-minded man, every lover of science, every true admirer of the advancement of useful knowledge, and, consequently, social happiness will feel if not pronounce against him. If any doctrines can, such as these will justify every horseman, every sportsman, every farmer and head of a stud in denying them access within the precincts of their stable. What else can be expected, if their hand be against every useful man?

I ask again, what opinion any rational man in sober common sense can have of the practicability or utility of their position? Are they not convicted of having laid before the world the details of a system which, by their own confession, are degrading and injurious to society, and destructive of the interests of the agriculturist? Are we not told that non-certificated practitioners can teach, nay, do teach, anatomy, physiology, and pathology equally as minutely and scientifically as taught at college; and yet the sum and substance of this study they call doggrel nonsense, occasioning them to become modernized smatterers, disgusting to any man of ordinary discernment. These assertions they make as if with a sense of infallibility. What childish argument! were there ever assertions more diametrically opposite to truth, or more palpably inconsistent with science? Can a man be taught anatomy and physiology and avoid learning the technicalities? Impossible: it implies a contradiction in terms. Are we not told that ignorance and error are preferable to education? that a non-educated, mal-educated, non-diplomist, a quack, an empiric, is more rational, knows more, and is consequently decidedly better calculated, and better qualified to practise the art of a veterinary surgeon than a man of education, a man enlightened at the Veterinary College, a diplomist? But this is trifling with language. Can a man who has never been instructed in disease duly estimate its various changes, or be fully competent to vary his treatment with the nicety required, in order that his practice may be more appropriate and beneficial to the then particular circumstances of the case? No; nor is he capable of seeing that his very remedy is aggravating the disease, and occasioning increased and unnecessary pain; and which he looks upon with a pleasant eye, regarding it as a favourable omen.

In the words of Dr. Parr, "He who can look with rapture upon the agonies of an unoffending and unresisting animal, will soon learn to view the sufferings of a fellow-creature with indifference."

Do not the interests of society, I repeat, loudly call for a prohibitory measure? Feeling satisfied that, by the judicious interference of the legislature, national education could be placed upon a sound and safe basis, is it not the duty of every parent having children whom he loves, every philanthropist who wishes well to his fellow man—every admirer and valuer of those luxuries afforded him by that noble animal the horse—every patriot who glories in the supremacy of British intellect, to lose no time in urging this great measure on the notice of our assembled rulers? What! I am inclined to ask, while my eye traverses the pages of your last journal but one—are the laws of social institutions, the whole systems of education, the progress of science to be at once suspended? Are all the time-honoured scientific processes of education, all advancement of useful knowledge, to be baffled in their course, and at once upset? Is a national school, a Royal Veterinary College, founded upon a basis as sacred and firm as the stratum upon which Britannia rests her secure and unshaken footing, to be at once annihilated by a Huntingdon farrier. Preposterous idea! miserable assertion! disgusting and insulting to common sense! Every graduate of the College must feel the grievous imputation. As such it will be looked back upon with silent contempt, or spurned with merited censure by the bulk of population; and so will any assertions intended to depreciate an institution of such agricultural importance, and of such great national utility. If it ever can be proved upon true and rational grounds that the present system or mode of education is in itself useless or degrading, and that the acquirement of useful knowledge is depreciated by common sense, then, but not until then, will it be time enough to think of a change: but, even then, and so long as the human heart is not thoroughly corrupt, and all the finer feelings of human nature deadened to a sense of the advantage derivable from the acquirement of useful knowledge and scientific research, will the discreditable ideas of empiricism meet in the bulk of society and the enlightened portion of community with no other feeling than that of direct or indirect aversion.

[There is a great deal of good sense in this homely and terse address. Our leader will contain another of a somewhat different character, but intimately connected with our interests, and after the insertion of which we shall beg to return to practical matter of a different kind.—Ed.]

A CASE OF EXCISION OF PART OF THE JUGULAR VEIN.

By Mr. H. W. Sparrow, *Malton, Yorkshire.*

Nov. 4th, 1828.—Mr. Henderson's attention was requested by Mr. Goldney, then residing near Chertsey, to a bay horse, with inflammation of the jugular vein on the near-side. Upon examination, ulceration was found to have taken place. The usual remedies were had recourse to without success; and on Dec. 6th Mr. H. determined on excision of the part.

A ligature was passed round the jugular at its bifurcation; also, below the seat of disease. Mr. H. then carefully dissected out the diseased parts. The animal's head was ordered to be tied up, and fomentations applied: the place was afterwards treated as a common wound. The horse ultimately did well, and returned to his work.

HÆMORRHAGE FROM THE NOSE.

By the same.

January 2d, 1830.—A servant to one of the Masters of Eton College called upon Mr. Henderson stating that a pony was bleeding from the nose. We accordingly went to see our patient, and found him in a very precarious state. The blood was flowing profusely from one nostril—the extremities cold—the pulse at the jaw hardly perceptible. Tow was passed up the nostril, and cold affusion applied to the head. Physic was given, but without effect: the pony was dead by the morning. We never could ascertain the cause of this—whether it was spontaneous or the effect of accident; and I much regret that no post-mortem examination was permitted to be made.

ENTERITIS IN A MARE.

By the same.

On Sunday, 3 p.m., June 1830, our attention was requested to a bay saddle-mare, the property of the Earl of Jersey. I believe it had been ridden some distance. When we saw our pa-

tient, she was rolling and knocking herself about terrifically—the pulse quick, and the extremities cold. We bled her nearly to syncope. An oily laxative was given, combined with opium, and counter-irritation was applied to the abdomen. These symptoms continued without intermission until 10 P.M., when death closed the scene.

Post-mortem examination.—From two to three yards of the jejunum were in a state of mortification. The cause I can only attribute to the excessive heat, and the immense fatness of the animal.

INFLAMMATION OF THE ABSORBENTS, ATTENDED WITH IRRITATIVE FEVER.

By the same.

TUESDAY, February 1st, 1842, 11 A.M., I was requested to give my opinion respecting a horse, the property of the Navigation Canal Company. The blacksmith, who does a little farrying, and who attended the animal, had given his opinion that he was labouring under inflammation of the lungs, and for such was treating him. The poor animal was almost exhausted from loss of blood and want of proper support; in fact, he had fallen, and the smith predicted that he would shortly die. In consequence of this opinion I was requested to see him.

Symptoms.—The patient was lying down, and suffering acutely from pain in the near hind leg. From the information I could obtain, it would appear that this leg had become immensely swollen, and, from neglect, had run on to suppuration to a most alarming extent. The limb was exceedingly fœtid—the pulse irritable—the membranes of the nose and eyes healthy, the eye looked particularly healthy—and the extremities warm.

Treatment.—The part was well cleansed, and afterwards dressed with a solution of nitrate of potash, and the tone of the stomach being lost, I gave a stimulant.

At 2 A.M.—The stimulant was repeated. The leg was dressed with digestive oils, and the animal made comfortable.

About 4 A.M., he got up without assistance, and ate a feed of corn and drank some water which happened to be in the crib.

8 P.M.—He had rallied much, and appeared quite eager for food. His usual diet, in a limited quantity, was given, the leg dressed, and left for the night.

Wednesday 6 A.M.—My patient was going on as well as I could expect. He had voided his dung, which was healthy in

its character. Pulse 44—the extremities possessing a healthy warmth. We gave tart. ant. ʒi, sp. nit. æth. ʒi, tinct. opii ʒss, in half a pint of warm water. Dressed leg with a digestive. The animal going on well, the smith was entrusted with the care of it.

From some peculiar cause or neglect, the smith was allowed to keep the key of the stable, and no report was made of the animal's welfare. On February 7th I was requested to make a post-mortem examination, and ascertain the cause of death. On laying open the stomach and intestines, not a particle of food was to be found in the former. A fluid was found in the intestines. I asked the waggoner whether he had given the horse any thing to eat: he replied he had nothing to do with it, as the smith *did* for him; and so the poor creature was perfectly starved to death, and the miscreant who was the cause of it escaped the punishment which he deserved.

CONSULTATIONS.

No. XXVI.

Glanders.

You would much oblige me by favouring me with your opinion of the following case:—

I was requested to examine a four-year-old mare on the 17th of June last. She was sent a distance of seventeen miles; and after examination, I gave it as my opinion, from the following symptoms, that the mare was glandered. First, a copious discharge from both nostrils, of a mixed quality, that is, a portion of thick lumpy matter, mixed with a thin watery like discharge, very adhesive, but no offensive smell. Secondly, the Schneiderian membrane of a blue-red colour, ulcerated in patches, and in places covered with a thin and scabby-like portion of matter. The ulcers were very vascular, and bled from the pressure of the sponge: here and there they were granulated or chancre-like. Thirdly, Great enlargement in both maxillary glands, a little tender to pressure, but no adherence to the bone. Fourthly, a large abscess on the antea-spinatus muscle of the off shoulder, and several distended lymphatic vessels running in different directions, and, in places, a beautiful arborescent appearance, particularly on the side of the neck; also numerous little ulcers about the commissures of the lips. Fifthly, her general appearance, as regards

condition, was beautiful, no cough or tenderness about the throat; the legs clean and free. I pronounced the case incurable; but the owner was anxious for me to put her under treatment for a short time. I at length agreed to do so.

Treatment.—Depletion to a moderate extent; afterwards I administered iodine and its compounds, cupri sulph., zinci oxid. and some other mineral and vegetable tonics. I applied daily the ung. hyd. cum iodinâ to the enlarged glands, trepanning the different sinuses of the head, and injected a solution of sulph. cupri for some time, and afterwards a solution of zinci oxid. in strong acid. The above treatment was pushed to the greatest extent, and the effects of the medicine carefully watched and adjusted according to circumstances for upwards of five weeks, and with no marked improvement. I cast her, and dissected out both glands, in doing which I wounded the parotid duct. I applied bandages with proper compress, and injected escharotic solutions for some days, when the discharge was stopped. For the last week I fancy much improvement: the ulcers are healing fast, and the matter is changed in consistence.

I am, my dear Sirs,
Your's, truly,
JOSEPH CARLISLE.

[In our opinion the case—from the description—appears like glanders. In so young and seemingly healthy a subject, it *may* end in recovery; but it is a great deal more likely to deceive Mr. Carlisle's present expectations.—ED.]

AN ACCOUNT OF A PECULIAR AND HITHERTO UNNOTICED DISEASE OF THE COW.

By Mr. J. RELPH, *V.S., Sebergham.*

THERE is a disease that attacks cows soon after parturition, the prominent symptoms of which are, a gradual loss of appetite; the function of rumination tardily performed, and at length suspended; and there is also flaccidity of the rumen and abdomen. Fever of the sub-acute inflammatory kind follows, attended with costiveness, which latter, if neglected, becomes exceedingly obstinate. The secretion of milk is diminished, its taste is rank and disagreeable, and both it and the breath of the animal possess an odour quite peculiar to the complaint. There is from the

vagina a discharge of bloody sanies, and sometimes detached cotilydons or glands of the womb in a state of decomposition have been occasionally observed. During the progress of these changes in the vital functions others occur in the animal ones. The cow gets up with some degree of difficulty—walks unsteadily—elevating the head, and betraying a degree of giddiness.

The characteristic symptom is the peculiar scent of the milk and breath; and, as far as my experience goes, no disease is marked by a more unerring index than these afford. The veterinarian conversant with it may recognize its existence on entering the byre even in the dark.

It mostly occurs in winter and spring: high feeding and the absurd practice of giving stimulating medicine immediately after delivery, appear to be among the exciting causes; and one feature it possesses in common with encephalitis parturiens—it leaves in the subject a strong predisposition to a recurrence of the disease at the end of succeeding gestations.

I do not recollect having seen the disease developed earlier than the fourth, nor later than the twenty-fourth day after delivery.

The treatment I adopt with almost invariable success, is moderate blood-letting if the pulse warrants it—evacuating the bowels by gentle purgatives, assisted by copious enemata—subduing inordinate arterial action, and restoring healthy secretion by the use of antimonials, digitalis, &c., and these ultimately combined with or superseded by stimulants and tonics. Should the uterine evacuation become so acrimonious as to excite evident uneasiness, I would use emollient, anodyne, or antiseptic injections locally, as the case might require.

Were it justifiable to occupy your pages with conjectures on the pathology of an anonymous disease, with the anatomical characters of which I am confessedly ignorant, I would briefly remark, that, aware of the physical changes effected on the products of the respiratory and lacteal glands by certain alimentary substances, and of the opinion of some that similar changes result from derangement in the digestive system, I formerly supposed that the seat of this disease was in that system; but subsequent opportunities of observation have led me to suppose that a diseased state of the generative organs is a frequent, if not invariable concomitant. As it occurs only in cows soon after calving, it seems still more probable that the phenomena of the disease depend on a morbid condition of the internal membrane of the uterus, and that the alteration in the milk, breath, and mental operations, proceeds from the blood being contaminated by the absorption of morbific matter thence. It may be said that the brain is affected through sympathy; but can the secretions thus

suffer by that power? What makes the affair more perplexing is, that we frequently witness inflammation of the muscular structure of the uterus, and also retention of putrid matter within that viscus, and occasionally gangrene with extensive sloughing of its substance, without the slightest trace of the characteristics of this disease being exhibited.

Finally, granting my hypothesis to be true, a singular anomaly is presented of the blood being changed in a peculiar way by disease of a particular tissue.

If, by the publication of this somewhat rambling account, you should excite one better qualified to come forward and elucidate this subject—possessed, as it seems to be, of the highest physiological and pathological interest—it would gladden the heart of,

Gentlemen,
Your obedient servant.

ON THE PROFESSORSHIP OF CATTLE MEDICINE.

By John Tombs, *Esq., V.S., Pershore.*

Dear Sir,—It was my determination to have expressed, in the pages of The Veterinarian, my unqualified disapprobation of the uncourteous conduct of the Governors of the Royal Veterinary College towards the whole body of veterinary surgeons, in not giving adequate publicity to their resolution of appointing a pathological lecturer on neat cattle; but Mr. Friend, of Walsall, has spared me the unpleasant task of doing so. He has not only recorded his and my sentiments on the subject, but those of nine-tenths of the country veterinary practitioners. Since the appointment, I have seen and conversed with many old-established veterinary surgeons, who were entirely in the dark respecting the situation, until it was filled. They all exclaimed sorely of the hole-and-corner work of the Governors of the College, in not giving the *whole profession* an opportunity of electing a cattle professor.

Why not have kept the situation open for two months? and have advertised on the wrapper of The Veterinarian, and in *Bell's Life?* Many of us are of opinion that "the College interest" has been exercised on this occasion. As to Mr. Simonds' qualifications for the berth, I and many of my brother chips know nothing; however, it is to be hoped the choice has fallen on one capable of giving every necessary instruction to the pupils on this grossly neglected branch of veterinary science.

ON THE SAME.

By Mr. VINES.

To the Editors of "The Veterinarian."

Gentlemen,—IN the last number of your Journal, I read the copy of a letter addressed by Mr. Friend to the Governors of the Veterinary College, respecting the late public advertisement in *The Times* paper of the 3d June, offering the situation of Professor of Cattle Pathology, &c. at the Veterinary College, to public competition among graduated veterinary surgeons.

Mr. Friend complains much respecting the conduct of the Governors of this Institution, and considers the management of the affair "unjust, ungenerous, a farce, and a heartless mockery of competition, simply to give a colouring to fairness of proceedings never intended, and thus victimize the unsuccessful candidates."

Further, he complains of their "not having had the common courtesy to inform him in any way of the ill-success of his application; a want of attention that would be deservedly complained of by an applicant for a groom's or footman's situation, if applied for in answer to an advertisement." Mr. Friend concludes by "supposing that the other competitors were treated in the like manner." I, for one, cannot allow this affair to pass over without stating that I happened to be placed in a similar situation. Seeing this advertisement in *The Times* paper, and considering myself fully competent, I came forward on public authority, and offered myself as a candidate for the appointment.

I should have pursued a similar course, had such a situation been offered by any other institution, and which I regret much has never been the case. Having been a member of the Royal Agricultural Society of England from the time it was first formed, and understanding that a grant of £200 per annum has been voted to the Veterinary College for the encouragement of the science of the veterinary profession, and also having been a teacher at the College for fourteen years without a stain on my character, I consider, having sent in a respectful application to a public offer, that I ought, at least, *for the service I have rendered this institution and the profession, to have been treated otherwise than with contempt.* I shall refrain, at present, from making any comments on the conduct of the Governors of this establishment, but remain your obedient servant, &c.

RICHARD VINES, Consulting and Practical
13, *Great College Street,* Veterinary Surgeon.
Camden Town.

ON THE ADMISSION OF MR. BULL'S LETTER.

To the Editors of "The Veterinarian."

Newcastle, August 15th, 1842.

My dear Sirs,—I HAVE been hesitating for some time what course is the most proper for me to pursue under the circumstances I find myself placed in by the non-insertion of my letter in your Journal.

The fact is, that I was called upon by some influential members of the profession to answer Mr. Bull's communication. I declined doing so for the reasons stated in my former letter; but I, at the same time, readily assented to communicate with the Editors of THE VETERINARIAN, in order that I might contradict the statements made, and inform them of the opinions held by many of the profession on the insertion of that communication.

Having published an answer to my letter without having inserted the letter itself, I feel myself in duty bound to those for whom and with whom I acted to request that you will publish my letter in your next Number. Whatever statements you have made, or intend to make, will then have their due weight and influence.

With kind regards,

I remain,
Your's truly,
THOS. W. MAYER.

To the Editors of "The Veterinarian."

Gentlemen,—Happy as I am at all times to afford to every member of my profession any information I possess on subjects which have been prominently brought before them, and severely commented upon in the last number of your Journal, yet, in this instance, I feel that I should be degrading myself, and by no means advancing the cause I have so much at heart, were I to offer any remarks on a communication containing such falsehoods and misrepresentations, both so uncourteous and personal towards myself and others, as Mr. Bull's. I cannot nor will not place myself in the lists with a man of whom it may be said that,

> "Abusive words step into his defence,
> And fill up all the mighty void of sense."

Anxious as I am for the fullest and fairest inquiry into the scientific opinions propounded by your contributors, and for the fullest discussion as to the utility of the measures advanced for the benefit of the veterinary profession, I cannot conceal from you the feeling of regret I experience that such a communication should have appeared to *disgrace* the pages of THE VETERINARIAN. False in the positions advanced—false in the character of the profession expressed—false as to the intentions and objects of the members of our body, it ought, in my opinion, to have been returned to its author, counselling him to make himself more conversant with the objects really sought for by the veterinary profession, and requesting him to reconsider a communication which in its present state was inadmissible.

You, however, judged differently, and it is not for me to do more than express my own feelings on the subject. The profession will draw their own conclusions, and may, perhaps, consider that it is high time we ceased to contribute our knowledge to those who consider that they can give as correct and judicious an evidence as any of us can, and conduct their business as scientifically and successfully, *from the performance of which there has been nor is there any intention to prevent them.*

I remain, Gentlemen,

Your obedient servant,

THO. WALTON MAYER, V.S.

Newcastle, July 8th, 1842.

[We must confess that our much respected correspondent seems to us to have expressed himself a little too angrily on account of our having inserted Mr. Bull's communication. He has not quite appreciated our situation as public and impartial journalists—nor has he quite done justice to our commentary on the impropriety of manner and of style which characterized Mr. Bull's letter. The progress of science will be best of all—will alone be secured when the discussion of important measures and facts is open to all parties. With regard to our own profession at least, the advancement of truth will be best secured by the free discussion of every subject connected with our art. Who or what have we to fear? Our profession is connected with many an important subject of inquiry. It is rapidly assuming its proper rank and station. We can submit without fear to attacks like those from Mr. Bull, of Huntingdon; and it is dissension among ourselves which alone can impede the glorious march of veterinary science.—EDIT.]

ON THE GROWTH OF HORSES.

A Letter addressed by Mr. Friend to Mr. Percivall.

Walsall, August 10th, 1842.

My dear Sir,—In the last Veterinarian you have favoured us with a valuable paper on the relative growth of horses, and, knowing your anxiety to be correct in all your statements, I am sure you will excuse my pointing out an error that has crept into that paper. You have stated that, according to the old saying, "the distance from the elbow to the ground, and from the elbow to the top of the withers, should be equal." If this is the way you have tested it, I do not wonder at your want of faith in it.

Do pray try, in a number of your full-grown horses, the measure from the exact centre of the elbow to the exact centre of the fetlock joint, and then, as before, upwards to the top of the withers; and I will venture to affirm, that you will not find a variation scarcely of a quarter of an inch in your whole regiment. I really think this is the very best criterion to judge of the height that a colt is likely to attain to after completing his full growth, if measured after the age of two years.

Do pray turn your immediate attention to this, in order to correct the mistake in the next number of The Veterinarian in the first place, and also to note the difference in the two measurements in your young colts. Now, to prove the correctness or incorrectness of the theory, I look at it in this light, that if the two measures are, as I believe them to be—if correctly taken—*quite equal* in almost every full-grown horse, it follows as a matter of course, that, supposing them to be as correctly taken any time (I say) after completing two years, that the difference in the two measures at least is sure to be added to the present height of the animal. The other important point to ascertain will be if there is any growth from the fetlock to the elbow. Knowing you will receive this as kindly as it is intended,

I am, dear Sir, your's truly,
E. A. Friend.

*** Mr. Friend will receive my best thanks for the kind manner in which he has reminded me of an error into which I had from inadvertence or failure of memory fallen, many years having passed since my attention has been drawn to the point. I have had sixty horses measured; and such was the uniformity of the result, that at this number I stopped. It was quite singular to find how nearly equal the upward and downward measurements proved. With two or three exceptions, there was not a

variation of more than half an inch; and even that in some instances I believe to have been in a degree owing to the difficulty there was in fixing upon the precise spot as "the centre of the elbow;" or else to the nicety required, in fat or broad-chested horses, in intersecting the measuring-tape, carried up in a perpendicular line from the elbow, by a plane or horizontal line extended transversely from the withers. For, be it observed, should tape or string be used as a measure, it must not be carried in contact with the skin round the shoulder to be made to *touch* the withers, but must be held up tight, in a perpendicular line, and the measurement then be taken by a cross-line extended from the top of the withers. Now that my attention has been called to the subject, I intend to see to what account the test can be employed in the passing of recruit horses into the service. Supposing that the limbs do not increase in length after the second or third year of age, horses entering the army might be measured after the manner described above, with a view of ascertaining the quantum of their future growth.

William Percivall.

A CASE OF WHAT IS CALLED SPASM OF THE DIAPHRAGM.

By Mr. W. A. Cartwright, *V.S., Whitchurch, Salop.*

On Saturday the 11th March, 1842, the hounds turned out at Emral, where J. C. Etches, Esq, of Broughall House, near this town, went with a powerful eight-year-old horse, and had a run after a deer. The ground was exceedingly heavy most of the way, but especially so over a dug field. After the chase he arrived at Worthenbury. His horse was breathing rather quickly, and he there, for the first time, discovered that there was a peculiar bounding action in his near flank. He then brought him home, a distance of ten miles, and arrived there about six o'clock, and the horse commenced feeding, and looked as well as usual. The violent action at his flank not subsiding, I was called in, and saw him about ten on the same night.

Symptoms.—He had eaten a bran mash and a sufficient quantity of hay, and looked as lively as if nothing was amiss with him. Respiration was a little increased. On the near side, at about the termination of the false ribs, and about midway between the linea alba and spine, there was that peculiar beating action before mentioned, and which is generally ascribed to spasm of the diaphragm. It was very visible to the eye, and had a jerking or throbbing character, but it was audible to the ear at

only a short distance. It gave the whole body a slight shake. On feeling the pulse at the jaw, I found it very full and distinct; and on keeping my finger on the artery, and fixing my eye on the beating in the side, I found that they were not acting at the same time, but regularly after each other, each beating 48 times in a minute, and remarkably regularly. On putting my hand to the side of the chest, I could not feel the beating of the heart, but, on applying my ear, I could detect it, but not loudly.

I then proceeded to the off side, to ascertain if there was the same beating in the opposite flank, but I found that there was not the least. I next applied my hand and ear to the side of the chest, and found that the heart's action was very great indeed—as much so as ever I felt or heard on that side.

Treatment.—I took three quarts of blood from him, and gave pulv. opii 3i in a soft ball. At four o'clock the next morning he was but little better. At seven he was considerably better, and the throbbing had almost subsided. At nine I saw him, and found him nearly well. The beating was now very weak, and almost indistinct; but just below where it was seen to beat there was a slight quivering or contraction of a small portion of the panniculus carnosus. The pulse at the jaw and the beating at the side were found to follow each other as regularly as when I first saw him. The respiration was now pretty tranquil, and the pulse at the chest was very distinctly felt. After this he had only a little aperient sedative medicine, and he was all right again.

This case leads me to doubt whether such cases are confined solely to the diaphragm, and whether they are not connected with the action of the heart. I recollect having a case of this description whilst a horse was under the operation of a strong dose of sem. croton, merely given to physic him; but the particulars I now forget, as it is some years since, and before the profession had publicly noticed such cases.

INFLAMMATION AND CALCULI IN THE BLADDER OF AN OX.

By Mr. J. Hawthorn, *V.S., Kettering.*

On the 28th of June, ult. I attended a bullock that was observed to stand alone from his fellows, and was thought to be ill. His general appearance was nearly healthy. His pulse was weak, but not quicker than usual. He stretched his hind legs

as far back as he could, and sank his back: sometimes he stretched only one hind leg for a minute, and then brought it forward, and stretched the other.

He moved briskly, but did not pass any fæces in the close, nor on his journey home, which was about a mile and a half.

He would eat nothing. Two doses of purgative medicine were given to him in the course of the day. On raking him, the rectum was empty, but nothing unusual was to be felt.

29th.—He had eaten two or three mouthfuls of hay, and drunk two gallons of water. He had passed a few small pieces of pultaceous dung. The other symptoms were the same. More purgatives and febrifuge medicine and clysters were given. I thought him gut-tied, and proposed to operate on him on the following day.

30th.—He is better in appearance—had grazed a little, and frequently voided small quantities of black watery fæces, with some pain and straining afterwards.

On examination per anum the bladder felt empty, and the gut full of thin fæces.

I suspected that some tumour existed in the abdomen which prevented the passage of the dung, as it was evident the medicine was purging him. He could not, however, be any longer gut-tied. I gave a small dose of oleaginous mixture.

July 1*st*.—Bowels as before. No appetite. Worse. On looking at him, I thought I observed a few drops of sticky urine; and a few minutes afterwards I caught a little which was dripping from him, and nearly as red as blood. I gave some oil and diuretic mixture.

2*d*.—No better. He purges in very small quantity. What urine trickles away is as clear as crystal. No appetite.

3*d*.—Worse. Was killed. In the abdomen were two buckets-ful of fluid, which no doubt was principally urine.

There was no disease in the paunch or intestines, but the presence of the urine in so large a quantity had produced a loss of appetite, and nearly an insensibility to the action of the purgatives. The bladder was collapsed. You will find an opening in the fundus (through which the urine escaped) effected by ulceration of the coats.

I made an incision in the side, in order to examine the lining member of the vessel and its contents. There was a considerable quantity of small calculi in the bladder.

There was great scirrhosity of the bladder throughout the whole of it, shewing chronic inflammation of long standing, as I think.

The owner told me, on the 29th, that the bullock never throve so well as his fellows in the winter; probably from the irritation

of these calculi producing chronic inflammation of the bladder, and which inflammation had lately become acute, and caused the sloughing through of the coat.

I cannot tell whether any calculi escaped with the urine, as I had no suspicion of calculi when the animal was opened.

The case is the more interesting to me, as, in this neighbourhood, vesicular calculi are very rare amongst any of our patients.

This was a three-year-old Hereford bullock, and had thriven very well since he had been at grass.

Had not the medicine begun to produce its effects (though but imperfectly), on the 30th I should have operated on him, as all his symptoms were those of being gut-tied. He lay down a great deal every day.

THE PROPER CHARACTER OF THE VETERINARY SURGEON.

[The following letter has been in our possession nearly two months. We were charged not to lay it before the public; but it is too full of good matter to be kept from them, and will be read with delight by every member of the veterinary profession. At some distant time we shall, perhaps, be permitted to divulge the name of the writer. It now stands high in estimation among us.—Y.]

My dear Sir,—I READ with feelings of much gratification the announcement of the intention of the Governors of the Veterinary College to establish a Professorship for Cattle Pathology, which will supply a deficiency that has long existed in this hitherto neglected branch of veterinary science. I trust that the appointment will devolve upon one who is by education prepared to combine the knowledge of comparative anatomy with the practical treatment of disease. The lectures will then be attended with deep interest by all, for few subjects can be more engaging to a reflective mind than to be acquainted with the different structure of the animal frames, and the habits and instincts of each distinct species. To treat this extensive subject both scientifically and practically requires a comprehensive knowledge of the animal and vegetable kingdoms, and, consequently, a man of liberal education and cultivated mind, who by long and unwearied perseverance in the various sciences connected with the animal economy would elevate the minds of the pupils above the

mere mechanical system of administering remedies without a proper consideration of cause and effect. We have been, and in truth are, seeking a charter to elevate our profession; but to you I will frankly and candidly confess that, although I am most desirous to avail myself of every external means to promote its advancement, and would most willingly do all in my power to assist the attainment of this great object, yet I feel assured no legal enactment that government can provide will be eventually successful unless the profession will rouse itself, and determine to uphold and maintain its own respectability, by sending forth and diffusing through the country a body of practitioners qualified to sustain, with regard to all the species of animals, the character with which the charter will invest them.

While uneducated men of low pursuits, vulgar habits, and uninformed minds constitute such a majority of the profession, no human law, however strong, will counteract the force of public opinion—no charter will secure respect for a body which ceases to respect itself.

The perfection of a circle consists in its completeness, not in its dimensions. If every veterinary surgeon were entitled by education, intellect, and professional ability, to rank as a member of a liberal profession, he would soon be admitted into the confidence and society of his employers, instead of the company and fellowship of coachmen, grooms, and stablemen, with whom I regret to fear too many compromise their self-respect, and become lowered to this most degraded level.

Until this evil is remedied by giving the student a more extended education, and demanding from him a higher standard of professional acquirement, no charter will ever enable him to attain a rank for which his mind, his manners, and his connexions wholly unfit him:—

> "What can ennoble fools and cowards?
> Not all the blood of all the Howards."

If I have written warmly, and, perhaps, unkindly, as regards some of my professional brethren, I am convinced you will pardon this unreserved expression of feeling, and attribute it to the desire that I so strongly possess to see the dignity and honour of so noble a profession supported and practised by scientific men and gentlemen. I believe that you fully sympathise with me in the conviction that the renovating spirit of the veterinary profession must be within itself.

RABIES IN A MARE.

[The following account was copied from the Limerick Chronicle.]

EXTRAORDINARY CASE OF HYDROPHOBIA.

A FINE bay saddle-mare, belonging to a gentleman of this city, died of this shocking malady on Wednesday, in Dublin. She had been out as usual the day before, exercising in the Cobourg gardens, and there first evinced symptoms of sulk, and attempt to lie down, when the groom immediately rode her home. In the stall she appeared more uneasy still, tottering from side to side, and at last fell, but recovered herself, biting and snapping at every object. Mr. Watts, the eminent veterinary surgeon, was sent for promptly, and, on seeing her, pronounced at once that she had been bitten by a mad dog, and could not survive more than a day. Her mouth was then tied up to prevent the animal tearing herself, and doing injury to all about her. The mare, during the night, struggled under the paroxysms of the disease to release herself, and became so furious that she dashed against the stable walls, and broke part of the timber work; foaming at the mouth, and cutting herself about the head and eyes by plunging against the enclosure in which she stood. Death, at last, closed the poor creature's sufferings. The mare had evinced a slight lameness in one foot, but no sign of a cut or bite there.

[The gentleman from whom the Editor received this communication accompanied it by certain queries, of considerable importance. Possibly Mr. Watts might be induced kindly to give a short answer to them. That answer would, with more propriety, come from him than from a stranger. It is, at all events, a most interesting subject.

1. Was it from the general symptoms that Mr. Watts at once pronounced that the mare had been bitten by a mad dog?

2. Might not all the symptoms that were exhibited arise from simple or idiopathic inflammation of the brain or its membranes?

3. Does he consider all cases where such symptoms are exhibited as designating rabies or hydrophobia?

4. Does he consider that these symptoms cannot arise from other causes than the bite of a mad dog; and if so, why does he come to that conclusion?

5. What symptoms may be expected to arise from inflammation of the membranes of the brain, proceeding from other cause than the bite of a mad dog, supposing that to be one cause of such a pathological condition; and how are the others to be distinguished?]

EFFECTS OF MERCURY ON HORSES.

By Mr. W. Percivall.

[Continued from page 444.]

Hydrargyrum cum Creta, as every medical man knows, is a slate-coloured powder, the result of extreme mechanical division of the mercury amid the chalk, and, perhaps, of some partial oxydation of the former. It may be prescribed for horses in doses varying from a drachm to an ounce; and will be found useful in disordered states of the alimentary canal, and of the biliary and pancreatic secretions. In diarrhœa, I have found it very serviceable in restoring healthy action and secretion. In cases where the state of the stomach or bowels forbids the use of calomel, and yet mercury in some form appears desirable, this will be found a very proper medicine. As an *alterative*—when the animal is hide-bound and does not make flesh, and voids dung offensive in odour and unnatural in colour, and altogether assumes an unhealthy aspect, and is weakly with it—doses of hydrargyrum cum cretâ, alternated with aperient doses of aloes, are often attended with the happiest results.

Hydrargyri Chloridum—the *calomelas* of the London Pharmacopœia for 1720—is on various accounts the form of mercury usually administered both in human and veterinary practice: indeed, in respect to the former, it has been truly said by Dr. Spillan, "There is no article in the materia medica more frequently used, or more grossly abused, than calomel." It may be regarded as, in general, a mild and safe form for the exhibition of mercury. The surgeon would not know what to do or where to seek a substitute, were he deprived of calomel: no bottle in his pharmacy is oftener called into requisition than that labelled "hydrarg. sub-murias" or "hydrarg. chlorid." The veterinary surgeon has never been without calomel among his medicaments—has had frequent recourse to it in his practice; and yet, notwithstanding the great repute in which it is held among surgeons, to him—in his horse-practice at least—it ap-

pears to have rendered so little service, that it would seem as though he set but little value upon it; unless it be as an alterative, or to confer, by admixture with aloes, increased power on his "dose of physic." In former times, calomel stood in some repute as an anthelmintic or vermifuge: but nowadays we have, or think we have, medicines better adapted for that purpose; and, in consequence, mercury so far is discarded. I shall, first, shew by the experiments I have made, what the real or simple effects of calomel are on horses; and, secondly, point out those diseases in which I conceive it may be administered with advantage.

Case V.—A horse was brought to me having (from a blow, I believe) the transparent parts of one of his eyes completely obscured, from effusion of lymph into the anterior chamber. Take some blood from the jugular vein of the same side, and give daily the following ball:—

℞ Hydrarg. chlorid.....3iss
Pulv. opii.....ʒj
Farin. sem. lini.....ʒss
Theriac. q. s. ut. fiat bol.

At the expiration of a week the eye appeared clearing. Continue his balls, and let him have blown into his eye, daily, one of these powders:—

Pulv. zinci sulphat.....gr. vj.
Pulv. sodii chlorid.....ʒiss
Pro pulv. vj.

By the time he had taken ten balls—two ounces all but a drachm of calomel—his mouth became sore, and he cudded his food. His eye recovered; the effects of the mercury gradually subsided; and, in the end, all did well.

Case VI.—Another horse took the same quantity, 3iss of calomel, daily, for chronic specific ophthalmia affecting both eyes; but without opium. The consequence was, diarrhœa was produced. Half-a-drachm of opium was now added to each ball. The diarrhœa ceased, and the eyes became much benefitted; and the horse was afterwards sold. No sore mouth, in this case, was produced, although twelve balls were taken—eighteen drachms of calomel: a circumstance accountable for on the score of the medicine at first running off through the bowels.

Case VII.—To a horse suspected of having the glanders, and given up for experiment, three drachms of calomel were given, mixed with linseed meal and syrup into a ball. No discoverable effect ensued. Four days afterwards, half an ounce of calomel was administered, similarly compounded. On the evening of the second day after its administration the horse became dull, and

off his appetite. On the third day he appeared very uneasy, but manifested no symptoms of cholic or decided pain. He lay down much, refused all food, but drank some water. The pulse was quickened, and there was a good deal of hollowness—"tucking up"—in his flanks. When made to rise, he stood "all of a heap," "sticking up his back." His dung had become pultaceous; but the softening never amounted to actual purgation. In the end he was destroyed.

The surest and quickest and safest manner in which the horse's system can be put under the effects of mercury, is by the administration of calomel in moderately large doses at short intervals, guarded by opium. I have, during the prevalence of the epidemic, which has hardly yet subsided—I have a case under treatment at the time I am writing—adopted the practice of submitting all such cases as have manifested any dangerous symptoms to the action of mercury; and I have found that a drachm of calomel, combined with five grains of opium, given, without intermission, every eight hours, has ordinarily, on the third or fourth day, affected the mouth: pinkiness of the gums and fetor in the breath have been the first indications; cudding of the food has followed, when the mercury has been continued. In no case, however, have I found it necessary to produce this latter effect; not in all, indeed, has it been found requisite to push the mercury so far as even to affect the gums: the disease giving way—whether, as I have believed, from the influence of the mercury or not—has always been the signal for me either to discontinue the medicine, or to diminish the dose, or to lengthen the intervals of its repetition. Latterly, I have abstained from blood-letting altogether in the epidemic. When but slight, I have made use of very simple treatment; when severe, I have entrusted the case to mercury, and I must add, that, hitherto, I have had some reason to be pleased with my new plan of treatment.

In regard to the influence of mercury over the periodic or specific ophthalmia, I have, at times, imagined that a good deal of benefit has been conferred; while, again, other cases have dispersed all my fond hopes. When the case is not of the specific character, but the inflammation, the effects of which we are desirous of getting rid of, has been of a common nature, I have seen the happiest effects from the action of mercury.

Speaking of the operation of mercury, it is surprising how comparatively little will, in some horses, take effect, and yet others appear all but insusceptible of its action. I have known ten grains of calomel, given twice a-day, make the mouth so sore on the fifth day, that the horse (a four-year-old one) cudded his hay: opposed to which, I will narrate a case in which calomel

and blue pill, and inunction with mercurial ointment, was carried to an extent to destroy life without any appearance of salivation.

Case VIII.—A three-year-old mare, in fat condition and with all the outward appearances of a healthy and sound constitution, though at this time the subject of farcy and glanders, having one small and one large spreading ulcer visible upon the septum within the off nostril, and three small ones upon the near side; submaxillary glands of both sides swollen; and three ulcers remaining upon one shoulder, where she has lately had an attack of farcy. The object being to produce ptyalism, with a view of discovering what effect such would have on her disease, she was ordered to take, morning and evening, hydrarg. chlorid. ʒj, c. far. sem. lin. et theriac.; to have unguent. hydrag. fort. ʒiss rubbed into the inner part of each thigh morning and evening, and to have her sores dressed with pulv. hydrarg. nitrico-oxyd. The calomel was continued for three days: on the fourth she commenced taking in lieu thereof pil. hydrarg. ʒi morning and evening, continuing the inungation and dressing to the sores. On the sixth day (from the commencement) the mare did not eat all her allowance of hay: on the seventh day she refused her food, and for this and the ninth day on that account her medicine was discontinued; the inungation and dressing being used as before. On the tenth day she resumed her blue balls, the dose being reduced to ℈ij, and had the ointment rubbed in as before; she feeding better again, and continuing to do so until the fourteenth day, when she was again much off her appetite. Still, seeing her disease was daily and hourly increasing, both ball and ointment were persevered in; the result of which was that she lost all appetite, and manifested disturbance in her respiration, and acceleration of pulse. Still, the medicine was continued, and the mare in consequence died suddenly some time in the night of the twentieth day of the experiment. Although this mare took six drachms of calomel, nearly two ounces of blue pill, and had seven ounces and a half of blue ointment rubbed into her thighs, salivation was not produced; nor, indeed, were there any very evident symptoms of sore mouth, for she never cudded her hay: the mercury, however, affected her in another—in a fatal way. But on the disease it had certainly no good effect: on the contrary, it appeared to aggravate her malady.

The case with which I shall conclude this account is one that followed and appeared to arise from the exhibition of mercury—in fact, resembled much the disorder surgeons have named "mercurial erythema."—I never witnessed its like before, and hope I never shall again.

Mercurial Erythema.

The mare, the subject of the above rare and singular disorder, had, two years before, laboured under all the symptoms of "broken back," of which, after a long course of treatment, she had completely recovered. The next time she was brought to me was for being lame, apparently in the off fore *foot*. She recovered from her lameness, and was a third time made my patient for a cutaneous affection of the same fore limb, spreading upon the back of the knee and cannon; and which, by purgatives and lotions used with bandages, was speedily removed. Three months afterwards the same returned, and was now accompanied by tumefaction of the leg and heat of it. She was blooded from the plate-vein, took purgative medicine, used the warm bath, and subsequently had recourse to lotions and bandages again. She recovered in a month. In another month she had a relapse of her skin affection; and this time took alterative doses of calomel for it, and used *unguent picis liquidæ;* and with this treatment, in five or six weeks, got well again. Three months after this third recovery, she returned again with the same complaint. The limb now was swollen from the knee downwards; it was bare of hair; the surface was covered with pimply eruptions; upon the back of the knee scurfy, above and below, for the space of two hands' breadth; the parts felt warm, and appeared itchy. Give her at night, in her mash, hydrarg. chlorid. ʒj; and let her take, next morning, bol. cathart. Use lotio plumb. diacet. dilut., with bandage to the leg. The physic worked well, and carried away all the swelling; leaving heat of surface of skin, and desquamation. Let her take, every night, hydrarg. chlorid. ʒj, and use the following ointment:—

℞ Unguent. picis liquidæ..... ℥iv
Hydrargyri bichloridi..... ʒj.—M.

After she had taken eight of the powders of the chloride, her limb looking very much benefitted, she was ordered a dose of physic. This operated sufficiently—not immoderately—but, on the day of the physic "setting," the mare seemed languid and unwell while out at exercise, and was in consequence led back to her stable. From this time she was kept in her stall, looking dull and refusing her food, but without any manifest disease or symptom of pain. On the second morning after the setting of the physic, the mare was found lying down, apparently very ill, and unable to rise. With much difficulty she was made to rise, and was got into a loose place. I was called to her at nine o'clock the same morning. I found her standing very infirmly

upon her legs; her joints having the appearance of every instant giving way under her; evincing great prostration of strength; respiration agitated; nostrils dilated; pituitary and conjunctival membranes as red as scarlet, and also the buccal membrane and covering of the tongue; and, from the red aspect of a bare place upon the knee affected, it is imagined that the *cutis vera* may be in the same highly injected condition. The pulse, though small and weak, could be felt, but hardly distinctly enough to be reckoned. Purgation had commenced afresh, and was going on freely, with the discharge of much *flatus*. With a countenance full of anxiety, she expressed pain in the abdomen by looking back frequently at her flanks. She soon lay down, and stretched herself out at full length, occasionally lifting up her head, and looking towards her abdomen, and groaning. She freely drank of water-gruel made warm: the giving her which, and keeping her box cool and well-ventilated, is all that was done to her. She survived but three hours and a half after I was called to see her. She died quite suddenly, and without any struggle.

Autopsy.—No morbid appearance discoverable. The mucous membranes of the stomach and intestines, as well as the peritoneum and all the viscera, in a state of health.

THE VETERINARIAN, SEPTEMBER 1, 1842.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

ILLEGAL PRACTITIONERS.

[We have much pleasure in inserting the following remarks of the Editor of *The Medical Gazette*. With some slight alteration they apply to the veterinary practitioner, and include almost all that we could wish.]

OF all the questions of medical reform which have of late engaged the attention of the profession, there is, perhaps, none more important, or involving greater difficulty, than that which relates to the protection of the public and the practitioner against the intrusion of unlicensed pretenders to a knowledge of medi-

cine. This is not a subject affecting the interests of one institution, or one particular class of individuals, more than another: it is one which concerns the public in general as well as every member of the profession. It is, surely, of no small consequence to the former that they should have some evidence of the qualifications of persons in whose hands they entrust their lives; and it is but fair that the practitioner should derive some advantage, in a legal point of view, as a return for the extended course of study he has gone through, and the marks of proficiency which he has been at the pains to obtain. It is not sufficient to leave it to the world to seek him out, and reward his labour and industry. The unlicensed and uneducated pretender, whose only object is gain, will resort to various means of imposing upon the public which he is above employing; and as, unfortunately, the majority of persons are not sufficiently good judges of medical attainments to avoid the snare which is laid for them, the practitioner pays the penalty of his own upright conduct, and is obliged to sit tamely by, and see the ignorant upstart gain the confidence of his patients, and deprive him of his practice.

We alluded in our last number to the impropriety of that proposal which would throw open the doors of medical practice still wider, and, removing all compulsion to pass through a certain course of study and to obtain certain diplomas, would simply *discountenance* unlicensed practitioners, by excluding them from public appointments, &c., and would substitute honourable feeling in the place of legal authority. Such a project may sound very well at a distance, but, in its practical application, it would be any thing but advantageous. It would demolish altogether the partition wall, of the imperfection of which we are now feeling the ill effects, and would leave us naked to the aggression of any one who chose to encroach upon us.

In favour of such a scheme it is said that all men who desire to practise their profession in an honourable and upright manner, and to maintain a proper position in society, will continue to take out their diplomas as heretofore. We doubt not that *they* will do so, whether compulsion be used or not. But are there not a great many who will be less scrupulous about acting in

this honourable way, and is it right that the practitioner who has gone through a regular routine of study should receive no more protection than the person who, without education, and without any test of his capabilities, assumes the character of a medical man? Common justice requires that a difference should be made between the two, and that the difference should not be confined to a simple discountenancing of the pretender, but should be effected by the institution of active laws against him.

The example of the College of Surgeons is upheld as shewing the advantage of making examinations honorary and voluntary. It is well known that the medical man gains little or no legal protection by his admission as a member of that corporation. Nevertheless, there are hundreds of young men annually presenting themselves for their diplomas; and the practitioner is not looked upon as orthodox without it. But those who consider the working of the voluntary system, in this instance, to afford an evidence of the propriety of remitting all compulsion in medical examinations, forget that hitherto the Company of Apothecaries, whose license. in a legal point of view, has been of more importance, have enforced on all the candidates for their diploma a certain course of study; and this being the same as that required by the College of Surgeons, students have been able to kill two birds with one stone, and obtain both diplomas with the same expenditure of time that was required for the one. But remove the regulations of the Apothecaries' Company, and substitute no others equally binding, and we shall find that the number of men presenting themselves for examination at the College will sensibly diminish. The time and expense required to pursue a regular routine of study, and to attach themselves to one or other of the Colleges, will, it is to be feared, be a sufficient temptation to many to think lightly of honorary diplomas. Irregular practitioners will become much more common, and, having been at less expense in their education, will be able to make their charges at a lower rate, and so beat the authorized medical man out of the field.

The ability to sue for charges in a court of law, and the qualification to hold public appointments and grant recognized testimonials, are, no doubt, inducements to go through the re-

gular form of education, and to obtain the requisite diplomas; but, after all, they are only inducements, and, if put in the scale against the expense which is avoided by irregular practice, will be overweighed in the estimation of many; especially when we remember that the medical man does not very commonly have recourse to a legal enforcement of his claims; and that the number who can expect to hold public offices are but few as compared with the general mass.

Our present laws, it is true, do little enough to prevent illegal practice; but still there are existing laws with this object, which, though every day broken or eluded, still serve to keep alive in the minds of men the distant thoughts of a prosecution, and tend to keep many in check. Of this, their secret influence, we should be made sensible if the restraint they at present exercise were removed. The objection, that no code of laws can be framed to effect the entire suppression of illegal practice, deserves but little attention. We might as well propose to remit punishments for crime on account of the impossibility of preventing it, and abolish the whole penal code, because it is unequal to the eradication of evil. We know that, to a greater or less extent, illegal practice must and will continue; but is that a reason for giving full scope to it? Is the health of the public to be sacrificed, the medical profession to be injured, and things allowed to take their own course, because a perfect system is unattainable? Yet this argument is employed, or rather this excuse is made, to prevent the interference of the administration on the subject.

It is no unreasonable request that we make. We merely ask that the principles of just government may be carried out here—that protection may be afforded to the practitioner in proportion to his necessities, and to the labour and expense to which he has been subjected in order that he may obtain his diploma—that some means may be given to our corporate bodies (for these proceedings would probably be best undertaken by them), of prosecuting and bringing to punishment such persons as, by open and illegal practice, are injuring the profession and deceiving the public.

"It is in this point, perhaps, more than in any other, that the bill of Sir James Graham, so often discussed, appears to have been defective. By it the practitioner would receive no assist-

ance in this very important particular. We trust that the subject will be again considered by the honourable Baronet, and that when the bill is brought forward in a more perfect state, we may find some decided provisions made to effect, in a degree at least, the suppression of illegal practice. There will be found, no doubt, many difficulties in the way of it; but without some attempt of the kind, one of the great requisites in reform will be left unfulfilled. In our opinion, it is to the want of power, to the want of legal support under which our corporate bodies labour, that many of the evils we have now to complain of are to be traced, rather than to any thing fundamentally wrong in the constitution of those bodies. And whatever reformed system may be adopted, whatever institutions may be placed over us, unless more effectual legal authority be vouchsafed to us, unless we have more power of maintaining our own rights, and of defending the regular practitioner from the aggressions of the ignorant pretender, our condition will not be much improved, and we shall have the trouble of going over the same ground of discussion and conflict which has now so long agitated the medical world.

VETERINARY JURISPRUDENCE.

Greville *v.* Chapman.

Having been subpœnaed at Guildford on the 4th of August last, on the singular trial relating to the horse Canadian, I, perhaps, may be expected to give a short account of that which I saw and heard, for it has made a great impression on horsemen every where, and will necessarily lead to very considerable change in the management of turf affairs.

Colonel Peel and Mr. Greville had made a joint book—a £10,000 book—in which they betted against every horse that was entered for the Derby, and the guide of their proceedings was so to arrange their book as to give themselves a reason-

able chance of winning whatever might be result of the race. In the month of May they examined that book, and found that if Canadian won, they would pocket £14,000 or £15,000. They thought that this was, perhaps, adventuring too far, and they hedged some of their bets, and so balanced their books, that if Canadian was successful, they would win £8000 or £9000, and if he lost, still they would win a considerable sum. This is the object of the greater part of betting men, that whatever occurs they shall be safe, and have money in their pocket. There is nothing unfair or dishonourable in this.

Mr. Greville having entered thus far into the affair, thought that it would be desirable for him to become the purchaser of Canadian, in order that he might have him trained under his own management, and he gave the Duke of Grafton £2000 for him, with the stipulation that £1000 more should be added to this if Canadian won the Derby. Mr. Greville had a right to purchase the horse if he pleased; but he must purchase him with his liabilities. He did so, to the extent of about £7200, for which he was entered in different stakes, and he had a right to increase his liabilities, the horse being his own property, and to hedge him or back him to what extent he pleased.

Every thing went on well until the 21st of May—the Derby being the 25th—when Canadian, who had been sent to Littleton to be trained by Dilly, was found to be lame. Mr. Greville had had been down to Littleton on the Sunday before the race was to take place, and every thing was going on well; but on the following day Canadian was lame in the near hind leg. Dilly sent off his brother immediately to London, to which Mr. Greville had returned, and he requested Mr. Field to go down and see what was the matter, telling him, that if it would not hurt the horse, he was to order him to be brought up to Epsom, in order that Mr. Greville might see him himself.

Mr. Field went accordingly, and found that there was inflammation of the left hock. There was a little more heat in it than in the other hock. He had the shoe taken off, and made the most careful examination of the animal, and found that when the horse was turned, he had more lameness than when he walked straight. In his opinion he was not fit to run a race; but he thought that he might be removed to Epsom in a train without any injury. In the mean time he ordered cold evaporating lotions to be applied to the hock.

On the following day he saw the horse at Epsom. The lameness appeared to be about the same as before. He had told Mr. Greville that in about a fortnight or three weeks he might get

about; but he was, what he should call, very lame then, and he did not think was fit to run for the Derby with any chance of winning. The lameness had been apparently caused by a slip or stretching of the part. There was no external swelling. He thought the horse might as well not have been walked in the paddock, and not be seen by those who were standing by, even although they knew nothing of the lameness unless their attention was directed to it. He certainly should not have given directions that a horse should be walked about when he was lame. It was contrary to his direction that the horse was walked about in the paddock. According to what he has heard, the horse continued lame for about five weeks; but he did not see him again.

Montgomery Dilly, the trainer to Mr. Greville, described the lameness of the horse both at Littleton and at Epsom. He told no one that the horse was lame—it was not usual for trainers to do so. When the horse first came out he walked lame; but no one that did not know that he was lame would have observed it. He did not appear lame except when he was trotted. He was trotted on that morning. Mr. Greville told him, about nine o'clock on Tuesday morning, that Canadian would not start: but it was not his duty to say any thing about the matter. He did not hear of any bets made against him on that morning. He did not publicly hear of Canadian's being withdrawn until one or two o'clock on Tuesday. It was, in fact, only about one o'clock that the withdrawal of the horse was generally known.

There may be no legal enactment to compel the owner of the horse to give the earliest notice of the withdrawal of him; but the law of courtesy, if no other, certainly required it. Mr. Greville knew full well at an early period on Tuesday, if not before, that his horse would not run. The notification of this should have appeared on Tuesday morning at the latest, and should have been made as public as possible, and at the earliest moment that was practicable, instead of Canadian parading the paddock with the others as if nothing had been the matter with him. It was this want of courtesy which led to the complaints that were naturally made at Epsom, and that terminated in the trial at Guildford, where a verdict of £250—the damages being laid at £5000—was obtained against the editors of the *Sunday Times*.

We will, however, leave this part of the subject, and refer to the evidence that was given by certain noblemen and others on that trial. We give it without comment.

Mr. Charles Wetherby, Secretary to the Jockey Club, had been speaking of a bet between Colonel Peel and Lord Charles Fitzroy. He says, the decisions of the club are supposed to be binding

on those who consent to submit to their authority. Their decisions are founded on the code of honour. The principles on which they act are fair and honourable.

The Solicitor General.—Has the Jockey Club any means of enforcing its decisions in case they should not be obeyed? Supposing a party enters a horse to run for the Derby, is it competent for him to withdraw that horse (continuing to be the owner of it) without giving any reason for so doing?

Witness.—Certainly; according to the rules of the Jockey Club, a gentleman can withdraw his horse whenever he pleases.

The Solicitor General.—Now, supposing that the Duke of Grafton made any bets against the two horses which he entered for the Derby, and that he afterwards withdrew them from the race, would he, according to the rules of the Jockey Club, be entitled to receive his bets?

Witness.—I know of no rule of the club to prevent him from doing so.

The Solicitor General.—Now, I want to have the matter clearly stated. Supposing the owner of a horse makes a bet that his horse will not win a certain race, and he withdraws the horse from that race, is he entitled to receive that bet, according to the rules of your club?

Witness.—Yes: but I am not aware of any case of the kind having ever been brought before the Jockey Club. There has never within my recollection been such a case disputed before them. I know that if a person makes a bet against a horse, and that the horse loses, the party losing must pay, unless he shews good reason to the contrary. It is a very common case for horses to be withdrawn from a race. According to the club rules, every person is bound to pay the bets which he loses.

Lord John Fitzroy was next called and examined by Mr. Thesiger: He said, I am a brother of the Duke of Grafton. I am my brother's confederate with regard to his racing stud—that is, I have as much power over the stud as he has himself. He was owner of the horse called Canadian. I remember the horse being lame in 1841. Mr. Greville wrote a letter to my brother, with respect to the purchase of Canadian. I replied to the letter. Mr. Greville agreed to purchase the horse for £2000, to be paid down, and to pay £1000 more if he won the Derby. He bought him with what is called his engagements, which would amount to about £80.

Cross-examined by the Solicitor-General: I have been a member of the Jockey Club for twenty years, and am tolerably well acquainted with the rules of betting.

The Solicitor-General:—Now, Lord John, will you be good enough to tell me, if a man enters his horse for a certain race, is he entitled to withdraw him at his option, and without giving any reason?

Lord J. Fitzroy.—Certainly.

The Solicitor-General.—Then, if the owner of a horse bets against his winning a certain race, and he withdraws him before the race comes off, is he entitled to receive the bets he has made against him?

Lord J. Fitzroy.—There is no rule of the turf to prevent a person betting against his own horse, nor against any horse being withdrawn at the option of the owner. A party who bets against his own horse is undoubtedly entitled to receive his bets, in case the horse loses.

The Solicitor-General.—Would the Jockey Club compel the payment of the bets, in case sufficient reason for withdrawing the horse was not understood to be given?

Lord J. Fitzroy.—I have never been a steward of the Jockey Club, nor have I heard of any case of the kind you mention coming before them. All bets and proceedings of the club are supposed to be conducted according to the rules of honour. It is a very common thing for horses to be withdrawn from a race. I do not know an instance of a person having betted against his own horse, and afterwards withdrawing him. All disputed bets are referred, not to the Jockey Club itself, but to the stewards of the club, to be decided according to their rules.

The Solicitor-General.—Then you say, Lord John, that bets made by a person against his own horse, however heavy they may be, according to the rules of the Jockey Club must be paid?

Lord J. Fitzroy.—I know of no rule of the club to the contrary.

The Solicitor-General.—I suppose you think that this is one of the rules which might as well be altered?

Lord J. Fitzroy.—It is very difficult to prove a case of the kind you speak of.

Mr. Thessiger.—Now pray, Lord John, what is your opinion with respect to such a case as has been stated by my learned friend; that is, where a party had betted against his own horse, and had afterwards withdrawn him?

The Solicitor-General.—My Lord, I must object to this question. Lord John's opinion cannot be received as evidence. It would, undoubtedly, be good evidence in reference to the rules and practices of the Jockey Club, but that had nothing whatever to do with the law of the case in question.

Lord Abinger.—I must say, I think the question is a perfectly legitimate one.

The Solicitor-General.—Then your lordship will have the goodness to take a note that I object to the question.

Mr. Thesiger (to Lord John Fitzroy).—Is it consistent with the principles of honour for a person to bet largely against his own horse and then withdraw him?

Lord John Fitzroy.—No man who acted according to the principles of honour would be guilty of a thing of the kind. I think that no man guilty of such an act would be tolerated in society.

Lord Abinger.—Would he be tolerated in the Jockey Club? (a laugh).

Colonel Peel.—I made a bet with Lord Charles Fitzroy against the Duke of Grafton's two horses, one of which was Canadian. I understood that I betted £10,000 to £300 against Canadian, but Lord Charles Fitzroy thought that I had betted him £10,000 to £100 against the horse. There was a difference of opinion about the time when the bet was made. I thought it was made previous to the nomination for the Derby, and Lord Charles thought it was made at the Goodwood of last year. I was afterwards joined in the bet by Mr. Greville. I wish to explain the matter. During the Ascot of last year there were three £10,000 books opened, one by myself, one by Lord Maidstone, and one by Mr. Greville, and I proposed to Mr. Greville that he and myself should unite our books, which he acceded to. I had previously made the bet, as I considered, of 10,000 to £300 with Lord John Fitzroy against the Duke of Grafton's two horses, which I brought into the joint-book. We afterwards proceeded to lay odds in every case. The principle was to bet against every horse entered for the Derby till it amounted to more than £10,000.

Mr. Thesiger.—How many horses were entered for the last Derby?

Colonel Peel.—180. The question respecting my bet with Lord Charles Fitzroy was referred to the Jockey Club, and they decided that the bets should be struck out on both sides. This was done. I had another bet in the joint-book; I bet £500 on my own horse, Chatham, against Canadian. The decision of the Jockey Club on the bet with Lord Charles Fitzroy was given on Wednesday the 27th of April. If Canadian had run for the Derby, and won, myself and Mr. Greville would have won about £14,000. Mr. Greville and I proposed to bet £5000 against Canadian, which would have reduced our winnings (if the horse had won) to £9000. I thought Canadian was a very good horse. I did not know that Mr. Greville had purchased Canadian; but the bets were made

before he purchased the horse. We settled our joint account a week before the Epsom Races, and we then separated. If Canadian had run for the Derby and won, we should together have won £8000—that is, my share, deducting our losses on the horse, would have been £4000. If Chatham or Seahorse had won, I should have been a larger winner than if Canadian had come in first. If £100 be laid to £300 on three horses, the result would be to us, if one of the horses won, that we should win £65. Our arrangement of betting was to lay odds against all the horses, so as to ensure a balance in our favour.

Cross-examined by the Solicitor-General.—The way to effect this result was, to lay out £10,000 on all the horses, and if you get bets beyond the £10,000, then the better of the odds must win, because only one horse out of all that run can win the race. Before I joined books with Mr. Greville I made the bet of £10,000 to £300, with Lord Charles Fitzroy, against Canadian. I made the bet at Newmarket, and thought it a good one. When Mr. Greville and I joined books we bet £6000 to £345 against Canadian, and, of course, as Canadian was withdrawn, we won the £345, all the bets on Canadian having been lost in consequence of his having been withdrawn. If Canadian had won, we should have lost £6000.

To Lord Abinger.—But, then, we should have won £14,345 by our bets upon the entire of the horses; so that, in fact, although we should have lost £6000 had Canadian won, still we should be gainers to the extent of £8345. I did not know that Canadian had been withdrawn until Tuesday. On the Monday before the Derby I made three private bets against Canadian. One I made in the morning, when I bet £2000 to £700 against Canadian (as we understood the witness). On Monday I went over to Crockford's, and took £300 to £200 that Canadian beat Auckland; which, of course, turned out to be no bet, as neither horse started. By Attila winning we were nominally winners to the extent of £4464, that is, if all the bets were paid. (A laugh.) If Chatham had won, we should have been winners to the extent of £9000. And if Seahorse, which belonged to me, had come in first, we should have won £6000.

I never heard of the lameness of Canadian until about two o'clock on the Tuesday, the day before the Derby was run for. I agree in the statement, that if a horse is withdrawn before a race, all the bets that have been laid upon him are lost; and I own I have heard complaints in respect of horses being withdrawn from a race. This circumstance has been a subject of complaint. It is the habit of persons backing horses to employ persons to make

bets for them. The power of withdrawing horses upon which large bets are made is certainly open to abuse. Fraud may easily be committed in consequence of that power. I have heard complaints that parties had improperly withdrawn their horses; but I know of no particular case of the kind of late years. I have heard about a horse, entitled the Knight of the Whistle, having been withdrawn, and of the circumstance giving dissatisfaction at the time.

[We make no comment on these proceedings: they speak sufficiently for themselves.—Y.]

NEPHRITIS AND PARAPLEGIA, COMPLETE OR INCOMPLETE, ATTRIBUTABLE TO SANGUINEOUS CONGESTION.

By M. Berger, *M. V. to the 5th Regiment of French Dragoons.*

[Continued from p. 488.]

Case II.

March 1st.—A horse, five years old, of a sanguine temperament, a predominance of the digestive system, and in a high state of condition, was submitted, soon after his arrival—two months ago—to gentle work. To-day he exhibited the following symptoms:—out of spirits—loathing of food—lying down and getting up again almost immediately— the respiration short and quick—pulse hard, yet not accelerated—the artery full—the mucous membranes of their natural colour—the mouth dry—and no stiffness on the loins.

Diagnosis.—Intestinal sanguineous congestion.

Treatment.—Gentle exercise—restricted diet—emollient injections, which, however, were not retained. Towards midnight he laid down and rested quietly during the night, except that he occasionally looked at his flanks.

2d.—At five o'clock in the morning his pains commenced anew. They were the same as before observed, but more alarming. The pulse was small and deep, although the artery continued full—the respiration was precipitate, and the movements of the flanks isochronous with the beatings of the pulse—the alæ of the nose were elevated and fixed, and the nostrils much dilated.

Six pounds of blood were abstracted, which afforded no relief.

In addition to the measures adopted on the preceding evening, a pint and a half of oil was given, and a thick cloth placed over the loins. The animal was considerably agitated, with elevation at the flanks.

At mid-day a second bleeding of three pounds only was effected. An ounce of ether was administered through the nasal cavities, it being impossible to make him swallow any thing through the medium of the mouth. Immediately after this a kind of crisis seemed to have arrived—the respiration was, if possible, more precipitate, and there was sighing and sobbing, with a roaring noise in the nasal cavities. He began to stagger, got himself into a corner, and appeared as if he would fall down in a fit. This, however, did not last more than a minute; after which a calm came gradually on, interrupted from time to time by similar crises, but not so long, and during which the animal looked mournfully at his flanks, placing his muzzle behind his elbow.

In this situation of things, and in despite of the smallness of the pulse and the feebleness of the patient, we opened the two saphenas, for we feared a congestion of blood in the colon or the kidneys. The stream was slow, and with difficulty kept up; and we did not obtain more than four or five pounds. Nevertheless, the animal was very much agitated—the respiration was frequent, and there were cold and abundant sweats. Four men were continually occupied in drying him, and they would not have succeeded in this had they not held heated irons in the neighbourhood of the places that were thus covered with sweat. The flanks, the groins, the sheath, and the chest, were the parts on which the moisture was thrown out most plentifully. The patient made many vain efforts to evacuate his fæces, but nothing was expelled but a smaller or greater quantity of mucus. He could not retain an injection, however small in quantity it might be. His urine was voided with difficulty, and only a little at a time, but it was of its natural colour and quality. He often placed himself in a position to evacuate his urine, but he could not accomplish his object. We attempted to make him take a couple of ounces of syrup of white poppies, intending to follow it up with a second dose of the same quantity, but we could not accomplish it. The slightest constraint exasperated him, and provoked a series of convulsions like those that have been described.

Notwithstanding his general feebleness, he could resist and beat us, and he could also walk very fairly. The head, the eyes, and ears, by their vivacity and action, gave but little intimation of suffering or of danger; but the movements of the flanks and the alæ of the nose announced a lesion of the nervous system which

presides over respiration and the spasmodic movements of the limbs. The action of pawing the ground *with the hind feet*, the nervous agitation of the muscles of the olecranon, indicated also that a portion of the same system that presides over the voluntary muscles was equally involved. It was by means of the permanence and augmenting intensity of all these symptoms that exhaustion and death supervened at eight o'clock at night, twenty-four hours after the commencement of the attack.

Autopsy.—Very intense sanguineous congestion throughout the whole extent of the mesentery. The mucous membranes of one part of the floating portion of the colon of a cherry colour. The ureters, the bladder, and the urethra, untouched. The kidneys blackened in many places through their whole extent. The cortical portion softened very deeply. The substance of the right kidney more disorganized than that of the left. The carcass distended with gas. A very great tendency to putrefaction. The blood black, oily, and thick. Much pulmonary congestion, sufficiently explained by the great difficulty and frequency of respiration.

Case III.

March 3d.—A mare, sixteen years old, of admirable form, of great power, of a nervo-sanguineous temperament, and in the highest state of fatness, had been ridden at the usual pace by her master, and, her work being over, had eaten and drunk as usual. She lay down at night, rolled herself several times, looked at her flanks, as it was afterwards recollected, and rested tranquil until the morning. At six o'clock she refused both food and drink—was dispirited, but still, and could scarcely be made to execute any movement. Her exterior temperature was as usual—the mucous membranes of a good colour—the pulse hard and slow—the artery rolling under the finger—the respiration short and frequent.

Diagnosis.—This, which, according to custom, I was compelled to give, was "a gastro-intestinal affection, with the commencement of sanguineous congestion of the mucous digestive surface."

Symptoms.—The alvine dejections were frequent, slightly formed, and containing some imperfectly digested food. There was no appearance of suffering; she carried her head well, and sought for something to eat. The movements of the flanks were always somewhat agitated and short, and the alæ of the nose were distended.

She was bled to six pounds — the blood was black and plastic, and the colouring matter predominating. Two hours

afterwards she sought for something to eat. At night the symptoms became more alarming—she was out of spirits—the respiration was difficult, and the pulse not to be detected. Three pounds of blood were abstracted with difficulty, on account of the violent resistance to which she abandoned herself. When she was taken back to the stable, and re-attached to the manger, the difficulty of breathing increased to such a degree that she lost her equilibrium, broke her halter, and staggered again into the yard. Some of the dragoons ran to her assistance, but before they reached her she had fallen heavily on her left side. The rapidity with which she heaved at the flanks, and the short distance which they rose and fell, were most singular. The spasmodic movements of the muscles of her limbs were succeeded by stiffening of them, which seemed as if she was about to die. Her hind quarters were paralysed, and we were compelled to draw her into the stable by means of ropes and plenty of straw.

An hour and a half after this our patient got up without assistance, but a new train of symptoms began to exhibit themselves. The respirations exceeded in quickness the pulsations of the heart, which could be detected with difficulty. The animal beat the ground on the left side in the manner and with the force of a biped. In a fit of seeming rage she seized the outer and superior part of the fore-arm, and bit it so that the blood flowed from many an orifice, resembling a leech-bite, and we were obliged to use force to make her quit her hold. From time to time she shook herself, as animals will do after they have been rolling in the dust. She attempted to lie down, which she very rarely accomplished; but when she did it was only to get up again directly.

We gave her an ounce of the liquid laudanum of Sydenham, every drop of which she had. We placed a seton in her chest stimulated by the essence of turpentine.

At nine o'clock, two hours after the administration of the opium, the effect of the narcotic began to appear, and she leaned herself against a post that was near to her: her eyes were half closed, and a momentary calm was the result. From this period we may date the gradual cessation of every alarming symptom. They occasionally returned, but they decreased in intensity and duration every hour. At ten o'clock a dose of a quarter of an ounce was given, and at eleven she was perfectly tranquil, except that the respiration was somewhat quicker than the natural standard. The night passed away quietly.

On the following morning, at six o'clock, she was labouring under considerable depression—the pulse was slow and feeble, and the movements of the flanks were perfectly natural. She

dunged and urined well. The parts which she had bitten on the preceding night were very much swelled, and it was impossible to touch her on the left side, on account of the extreme sensibility of that region. We gave her warm gruel slightly nitrated, and ordered emollient injections and baths and fomentations of the same kind on the injured limb. The seton which was passed the night before discharged well.

5th.—The hind leg on the right side was no longer able to support its share of the weight of the animal, and there was evident enlargement from the coronet to the hock. The body was supported by the right leg.

6th.—A little strength had returned to the left hind leg. The fever of reaction was beginning to establish itself. The pulse was considérably developed, and the mare refused to take the gruel which she had before readily drunk.

7th.—We abstracted four pounds of blood, which coagulated very slowly, and was of a yellow saffron colour with much gelatine. From that time she began to improve.

Case IV.

March 7th, 1839.—A saddle-horse belonging to the standard-bearer of the regiment had lived some years on dry food. He was a greedy animal, very fat, and of a sanguine temperament. During the six years that he had been in the regiment he had been once only on the sick list. He had this morning eaten his ration with less appetite than usual. He lay down after eating only a part of his oats, but soon got up again, and began to look at his flanks. He crouched under the hand of any one who touched him, and prepared to strike at him with his hind legs. His tail was in continual agitation upwards and downwards and from one side to the other. The general temperature of his body seemed to be a little lowered—the mucous membranes were of their natural colour—but the movements of the flanks were much quickened. In the different positions in which he occasionally placed his limbs, we could hear a curious noise in the joints resembling that of an electric spark.

Emollient injections were ordered—warm clothing on the loins, and a restricted diet. At one o'clock the pulse was considerably developed. We opened the saphena vein and abstracted six pounds of blood, rich and fibrinous. Three hours afterwards the animal evacuated with considerable pain some hard pellets of dung. We gave an opiate containing an ounce of the laudanum of Sydenham*.

* This is an old preparation, containing one-eighth of its weight of opium.

At eight o'clock the animal was continually looking at its flanks—occasionally scraped with his fore feet—prepared to lie down, and placed himself upon his knees, but immediately rose again without his hind quarters having touched the ground. The pulse was small, and the artery could scarcely be felt, but it was regular. We opened the jugular vein, which we effected with the greatest difficulty, and not without putting the animal under restraint; for, although habitually good-tempered, he now abandoned himself to an excess of rage that was truly frightful. We could only obtain three pounds and a half of blood, which was of a deep black colour, and coagulated as it flowed.

His elevated head and wild expression of countenance announced his sufferings. Without any apparent reason he became sadly lame on the left fore-foot, and the articulations cracked more and more. The exterior temperature was sensibly diminished in the whole of the anterior part of the body.

8*th*.—The night was tranquil. The circulation was remarkably diminished—the effect, probably, of the narcotic. The pulse was intermittent. He searched for something to eat. Give warm drinks, with barley-meal and nitrate of potash.

9*th*.—The lameness still remains, but somewhat diminished. Going on well. Gradually returning to his usual food.

15*th*.—He is perfectly well.

If we now seriously consider the facts which have been described, the hygean and the physiological position of our patients before the attack of the disease, we shall not wonder that all the victims, inhabiting the same district, under the influence of the same temperature, accustomed to the same kind of food, and having the same organism and physical temperament and state, should be attacked by maladies of which the essence was the same, as well as the determining cause. If in the relation of symptoms they appeared to be unlike in intensity, it is not the less true that they arose from the same causes, and that the differences which have been described are to be attributed to the difference that existed in the organization of the individuals.

The attack and the progress of the disease have been constantly the same, although it has fixed on organs that have no analogy with each other in composition; and although it has left after it lesions which have varied in their intensity and their modifications according to the treatment. In all, the nervous system underwent a remarkable change. In two of them, that portion of the system which presides over locomotion was affected, and in all that which governs the process of respiration underwent a complete change. In the third case, we saw one portion of the mus-

cular system, submissive, when in health, to the empire of the will, become the seat of the most painful feeling, difficult to define, or even to form a satisfactory conception of, but plainly indicated, and its intensity sufficiently proved when he fixed his teeth on the spot of which it was the seat.

In these four cases we have had the opportunity of applying opium in doses in which we should not otherwise have dared to exhibit it; but the extraordinary nervous excitement under which the animal laboured, would not permit us to hesitate. We particularly refer to Case III. It was employed with equal advantage in Case IV; although the disease was, in truth, of a milder form in that case. It would, however, have fatally triumphed had it not been for the prompt administration of this drug.

Although, in the present state of our art, we are not able to follow with mathematical precision the action of any medicine on the frame, we have a right to suppose that, in the cases which have been described, and in others that may be brought under our cognizance, the destruction of the tissues by gangrene appearing to be attributable to the manner in which the vital principle is attacked, the administration of certain medicaments may produce a modification favourable to the maintenance or the return of health.

THE VETERINARY ART IN INDIA.

By J. Grellier, *Esq., M.R.C.S.*

[Continued from p. 389.]

Of the Absorbents.

They are divided into two sets: those on the surface of the bowels, which are occupied in absorbing chyle from the food and conveying it to the blood, are termed lacteals, from the resemblance which chyle bears to milk. The red, which are employed over every other part of the body, are termed lymphatics.

The first covers the whole surface of the bowels, and may be frequently seen in the small intestines of a horse that has died shortly after eating. In their texture they are transparent, very strong, and full of valves, for the purpose explained in describing the veins.

In their course from the bowels they unite and pass through a great number of glands, where it is supposed their contents receive some change, rendering it more fit to unite with the blood in the circulation; after which they pass on, and, uniting, form a tube called the thoracic duct. This duct, passing up the breast, empties itself in the left jugular vein just before it passes into the vena cava; which last vessel I before mentioned enters the right auricle of the heart, having brought back the exhausted fluid to be circulated through the lungs. Here the chyle assimilates, and becomes organized, if I may use the expression, into blood, by the new properties which it acquires in the lungs. Thus, the blood is continually supplied and nourished in quantity by the absorbents; while it is continually receiving vital heat, and irritability or the principle of life, from the lungs.

This supply is still further increased by the additions which it receives from the second set of absorbents, termed lymphatics; and are employed through every part of the body to carry off the wasting particles and redundance, as muscular flesh, fat, fluids, bones, &c. This will be perhaps illustrated and rendered more familiar by taking it in the following view:—Every one will allow, that we cannot have a particle existing in our system at present which was there a few years past; for every part of the body is continually wearing away from the abrasion of the fibres, &c., even in the most inactive life. The wasted particles are conveyed from the body by the lymphatics; while there is a supply, or fresh deposit of matter, in exact proportion by the arteries; except when the animal is growing—the deposit being then more than the waste. By this process in a few years there is a total change in both solids and fluids; also during any disease in which the blood is not supported by food, the lymphatics are employed to imbibe the oily particles of fat, which they convey to the blood for its nourishment.

There are many peculiarities in these vessels which are not accounted for. The chyle taken up by the lacteals of one animal differs not in the least from the chyle of another, even if one has been always fed with flesh and the other with vegetables; which has given rise to many opinions concerning the power by which they absorb. It was formerly thought to be from capillary attraction; but this cannot be the case, for if it acted on this principle, it would alike absorb every thing fluid, whatever might be its quality; and it is found that bile, &c., which is copious throughout the intestines, is never found in these vessels. For example, loaf sugar acts by capillary attraction; for if it is held over, and just touching the surface of a thin fluid of any kind,

it absorbs it, and the fluid ascends considerably higher than its own surface, which proceeds from the capillary structure of the sugar.

To account for this peculiar distinction, it is supposed that the lacteals have muscular orifices, which are affected by certain principles; consequently they will contract on heterogeneous fluids, and absorb those which are homogeneous.

It is also imagined that they take their rise from arteries, as frequently, on injecting of arteries in glands where these vessels are numerous, the absorbents will also be filled; and Mr. Coleman mentions it as no very uncommon circumstance, to find blood in the thoracic duct of a horse.*

Thus, having finished the outlines of the circulation, I shall proceed to the diseases of the respective parts.

[To be continued.]

* A number of very ingenious experiments have been made to prove that these vessels have the power to decompose fluids when they are received into the bowels; and the gases of which the fluid is composed are circulated by these vessels, and again recomposed into fluids or solids of other properties. If so, the bowels act on a similar principle with the lungs, with this difference—that the lungs supply only oxygen to the blood, and a small quantity of water which we breathe; while the bowels, by the same vital power, decompose the fluids that we receive in the form of nourishment; and their æriform fluids combining in other proportions, compose other fluids requisite for the animal system. I must confess that I much incline to this opinion, as it corresponds with the operations of Nature as far as they are known. Vegetables, oily and other nutritious productions, are but a variety in the combination of elastic fluids; which principle is not only found to exist in the vegetable world, but likewise in the animal. Putrefaction is but the decomposition of an animal or vegetable substance, yielding its materials in their original form, to be again occupied in the works of Nature: consequently, every solid or fluid in the body is but a variety in the affinity and combination of these fluids.

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LECTURES ON HORSES.

By WILLIAM PERCIVALL, *M.R.C.S., Veterinary Surgeon First Life Guards.*

LECTURE V.

THE ARM *(continued)*.

HAVING considered the arm in relation to the connexion subsisting between the shoulder and it, to the leverage it offers by the projection of the elbow, and to its form and substance, let us now view it in reference to its length, and to the position it has in respect to the body, and afterwards proceed to the examination of the knee and leg.

A LONG ARM is held to be a point of excellence: it is one of the characteristics of speed; the deer, the greyhound, the fox, the rabbit and hare, have all of them long arms. It also denotes strength. A long arm includes the supposition of a short leg or cannon; and shortness in a bone which simply acts as a prop of support, is a sign of strength; hence the lower we descend in the limb, the shorter we find the bones: thus, the cannon is shorter than the arm; the pastern than the cannon; the coronet than the pastern; the objects being strength, and, as much as possible, the mitigation of concussion. The arm, it is true, likewise constitutes a shaft of support; but, then, it is on every side surrounded by muscle, from which it must receive considerable sustainment: whereas, the bones below the knee are without any active or vital embrace; are, in fact, left without any support and protection, save what little they derive from tendon and ligament. Again, the arm being the moving power, the leg, the part to be moved, length and substance in the former contrast advantageously with shortness and compactness in the latter: every inch added to the leg increases the weight

of the shaft to be raised and projected, and calls for additional power in the propelling agent. And again, length of arm will give the horse advantage in action: every step he takes in a walk or trot, will, from the greater reach of the arm forwards, prove so much gained to him; and these gains, though insignificant of themselves, may in the course of a mile turn out something considerable.

Should the arm be short, though it be muscular and strong, yet will its power tell to comparatively little effect when the cannons are long, and from that circumstance alone proportionably weak: horses so made are absolutely weaker—less stable—upon their fore legs than others: they do not possess the same power of recovering a false step, and are consequently more likely to fall and break their knees; neither do such legs "wear" well, but by hard work soon evince instability and tremor at the knee-joints, with knuckling-over of the fetlocks. On all accounts, therefore, a long arm with a short cannon is to be preferred.

THE POSITION OF THE FORE LIMBS, in respect to the trunk, in which I include their line of descent from the body to the ground, will mainly depend upon the length of the humerus, and the direction given to the radius by its articulation with it. In animals in which the humerus, forming part of the shoulder, is placed in an oblique position, it is, as is observed by Sir Chas. Bell, "necessarily short; otherwise it would throw the leg too far back, and make the head and neck project." "It is," continues Sir Charles, "one of the 'points' of a horse to have the humerus short. And not only have all animals of speed this character, but birds of long flight, as the swallow, have short humeri." In horses in whom the points of the shoulder appear to project inordinately forward, the fore limbs will be found to be placed farther backward than usual, owing to the too great length or obliquity of the humerus; and should the limbs at the same time, from the nature of their connexion with the humerus, have an inclination in their line of descent backward, such a horse, from his liability to fall and the little chance he has of recovering any stumble or mis-step, is to be regarded as dangerous in the extreme: in fact, he is fit but for harness, and never ought to carry a saddle. The centre of gravity being thrown so much more forward than it ought to be, with the undue preponderance given to the head and neck, will cause the weight of his body to be thrown, by the impetus of action, almost all into his harness-collar, and thus prove of material assistance to him in his draught. In a horse with well-formed and straight fore limbs, a plumb-line let fall from the point of the shoulder will drop touching the point of the toe; but in a horse formed after the manner described above, the line will fall more in front of the toe of the hoof.

The Knee.

The knee of the quadruped is the part which corresponds, anatomically regarded, with the *carpus* or wrist of man: differently circumstanced, and differently used as the two parts are, yet is there considerable analogy between them in structure. Each of them is composed of eight bones, though in the knee only six out of the number are placed so as to sustain pressure; the remaining two being situated behind the others, out of the line of the superincumbent weight. One of these supplementary bones—called, from its shape, *trapezium*—is affixed edgeways to the outer part of the back of the knee-joint, and there answers the most important purpose of furnishing a lever for those muscles whose office it is to flex the leg: both celerity and force were required in this flexion or catching-up of the leg off the ground in action; and these are attained through the advantages the muscles derive in their action from the projection of the trapezium. When we see, therefore, great breadth of the outer side of the knee, and that its hinder part is very prominent, throwing the muscles attached to the point back and so increasing the breadth of the arm, we may pronounce such a horse to possess great power in flexing his legs, and commensurate strength and quickness in action.

There are six small bones, then, sorts of irregular or mis-shapen cubes, placed between the two main straight shafts of support of the fore limb, viz. the radius above, the cannon-bone below. Upon the summit of the latter the three lower of these bones, ranged in two rows, rest; while upon the three constituting the upper row rests the lower end of the radius. Why was the knee-joint constituted in this manner? Why were these bones interposed? Why was not the end of the radius connected by joint at once with the end of the cannon-bone? Because Nature had more objects to fulfil than could have been accomplished by any simple or single formation of joint. By a joint between the radius and cannon-bone the weight would have been quite as well sustained as it is at present; but the concussion must have been greater: nay, the motion might have been as great even as it is now between these two bones; but then, at the time that the leg was flexed on the arm to the utmost, how would the knee-joint in front have become exposed, and what must have been the consequences of a broken knee? or how could the animal with impunity have gone down upon his knees, in the act of lying down or kneeling, as he can now? Suppose a sort of *patella* or knee-pan had been placed and fastened in front of the knee, would that have answered the purpose? Perhaps, as far as standing and motion are concerned, it would; and, perhaps, some such contrivances as exist in the knee-joint of a man—the *semilunar cartilages*—might have been

successfully introduced for warding off concussion: still, the chances both of fracture and dislocation must have been great, whereas at present such accidents never happen*; and, besides, the knees so formed never could have undergone "the wear and tear" with the impunity they are, such as they are, enabled to do.

Nothing can exceed the complete aptitude of the joint of the knee for every purpose named and required of it. Though there be six bones actually entering into its composition, yet so braced and bound together are they, by ligaments, in their relative situations, that, while they admit of every requisite motion in the joint, they support the superincumbent weight with all the stability of a solid structure, and are secured both against fracture and dislocation under any use or abuse to which the knee may be subjected. Moreover, the joint receives protection both in front and back by the tendons which pass across it, and has, in addition, a general enclosure of capsular ligament.

Large knees constitute a good point in a horse; they denote strength and stability; in action, safety and endurance; and, as I observed before, it is a great point to have a boldly projecting trapezium. The motion of the knee-joint consists in flexion backwards —none whatever in the forward direction; and this flexion backwards is capable of being carried to the utmost extent—so far as to bring the back of the leg in contact with the back of the arm. Nothing illustrates this better than the strapping of the leg and arm together; an expedient not infrequently had recourse to when no assistant is at hand to take up the fore-leg, to make the horse stand firmly and immoveably upon the opposite one.

While in a state of flexion, some degree of lateral motion is possessed by the cannon; though the same no longer exists when the leg is extended. Lateral motion, in the extended position of the limb, could only have tended to diminish the stability and firmness of the standing posture, without possessing any countervailing advantage; but some degree of lateral mobility in the knee, in the flexed position of the limb—while the leg is in the air—enables the animal to round and collect his action, and direct his foot while *off* the ground and place it *upon* the ground, according as circumstances shall require of him. Some horses, we know, throw their feet outwards in going; some, inwards: foreign horses, especially, have the former kind of action; a good deal of which peculiarity in the flexion of the leg is effected through the lateral motion possessed by the knee-joint.

[To be continued.]

* Many years ago, when I was quartered at Chatham, and in the habit of hunting with the Wouldham harriers, a person assured me he "put out his horse's knee-joint" in galloping hard down the declivity of Wouldham hill.

REMARKS ON DRENCHES, AND THEIR OCCASIONAL DANGER—OBSERVATIONS ON SETONS—THE RESULT OF THE ADMINISTRATION OF THE HYDRIODATE OF POTASH—AND REMARKS ON SEVERE FIRING.

By the late Mr. E. Price, *V.S., of Cork.*

[In The Veterinarian of the last year an interesting account of the epizootic among horses was given by Mr. Price. He died soon after the completion of it. The present Essays were written a very short period prior to his death. We lay them before our readers *precisely as he wrote them.* The observations relating to his illness, its possible result, and his undiminished zeal, have peculiar interest. Perhaps we could have wished the last subject treated on to have been of a rather different nature.—Y.]

That drenches are to a certain extent dangerous, and in some cases absolutely so, must be allowed on all hands; and I think it would be the truth, and nothing but the truth, if this were candidly confessed by the surgeon, and impressed on the mind of the owners of horses.

I have known several horses destroyed by them, and am free to admit that I settled a couple myself. One was during my apprenticeship; the other was a mare of my own. She coughed violently on getting the drench, but not until after the head had been let down. In a short time a shivering came on—her coat stared—her breathing was laboured, and continued so for several days. To cut the matter short, she died in consequence of it: a portion of the drink had entered the trachea, and caused a degree of inflammation which destroyed her.

A day prior to this she was right-well. Then, why did I drench her? The fact is, I wanted to fatten her for sale, and was giving her a good comfortable strong drink. You may suppose that I ever afterward gave *balls* to my own horses, and to the horses of my employers, where I could manage to do it.

For the benefit of the profession every one should be ready to tell his brethren the result of his practice, without any humbug about the matter. This mare lived long enough after the mischief was done to deceive those that were about her, unless they were practitioners; and many a horse, difficult to drench, dies, not from the original disease, but from the inflammation set up by a portion of the medicine "going the wrong way." I am far from

denying that drinks may be given, without much danger, by a person who goes rightly about it; but the administering of it frequently, adroitly, and safely, requires some νους. I use a bottle, or a horn with the small end cut off, and a large wooden bung or cork in the other end. The head should only be elevated just sufficiently for the fluid to run down. If a disposition to cough shews itself, the head should be instantly dropped; no matter how much of the drink is lost. Where there is sore throat, nothing should induce me to administer a drink, unless I thought that the patient would probably die without it. It would be well for the junior members of the profession if older ones were at hand with whom they might communicate from time to time, and who would point out from time to time the danger of certain proceedings. It would serve as a beacon to warn us of danger.

Swellings in the throat often, apparently, require the insertion of setons; but the animal is occasionally destroyed by this very measure. That was, apparently, a very honest and, in my opinion, a very valuable case of laryngitis, related by Mr. Hutchinson, of East Retford*. A horse had had violent cough and sore throat during a fortnight. Mr. Hutchinson, acting on the principle of counter-irritation, and, in fact, chronic inflammation of the larynx being the plain and palpable disease, and acute inflammation being comparatively slight, inserted a seton under the jaw. What was the consequence? A most rapid swelling of the contiguous parts took place. It extended to the parotid first, and then, becoming of an enormous size, reached to the back of the head and half way down the front of the neck. Another veterinary surgeon was called in. They performed the operation of tracheotomy, which removed the difficulty of breathing; but the swelling extended with immense rapidity—the tongue protruded from the mouth, and the animal fell into a comatose state: this was followed by a state of extreme violence, and it became necessary to destroy him. The membranes of the larynx, epiglottis, and trachea, were highly inflamed and thickened—the whole was the consequence of the seton operating on a part so disposed to take on inflammation. Not the slightest blame could be attributed to the surgeon. I have seen horses lost from rowels in precisely the same way. Erysipelatous inflammation was set up, and could not be arrested.

I once destroyed a pony by placing a large seton on each side of the ribs. I imagine that I must have penetrated beneath the panniculus carnosus. I did not, indeed, examine him, but he was blown as tight as a drum, and the setons had taken on the process of mortification. I should observe, that the pony had a

* Veterinarian, vol. viii, page 684.

chronic chest affection, which might have had something to do with the affair.

I am averse to cutting wounds in the skin when I can avoid it, although I have, since that period, inserted many hundreds of rowels and setons, with only one mishap, and that not fatal.

I have often seen permanent distortions in the lips produced by rowels and issues in the cheeks, when the branches of the seventh nerve have been interfered with.

I fear that "my say" is so long that it will not gain admission; but I shall, nevertheless, venture on a little more, for it is a long time since I wrote to you, and it will probably be a long time before I do so again.

I have not found the hydriodate of potash to answer my expectation, but I shall now try it in the form recommended by Mr. Morton. I have frequently reduced very large splents, both on the inside and the outside of the fore legs, and arising from blows or kicks on the large metacarpal bone, by a leaden compress covered with leather, and applied tightly by means of a linen roller, or a leathern boot, made to lace or buckle.

Who in the profession can read without feelings of much gratification the debates of your excellent Society? Our thanks are particularly due to Mr. James Turner, for his work on Navicular Lameness and on Insidious Glanders. With regard to his deep firing, I go all the way with him; but I seldom get employed by a man in whose hands I dare to trust myself to go the whole hog, generally having to do by two or three firings what might be done at one, if done severely. A man must be well established before he attempts this decisive but apparently cruel operation. I have been accustomed—rightly or wrongly—to apply a very mild blister to the leg the night before I operated. It affords a better surface to work upon, and exposes the real state of the leg: but I have tired myself, and, I fear, your patience; and must defer to a future period some other remarks that I wish to make.

ON THE SWALLOWING OF SPONGE BY A HORSE.

Communicated by Mr. George Rickword, *Retford.*

An extraordinary case has lately come under my observation of a horse swallowing a piece of new sponge, and which caused not the slightest inconvenience to him, although he did not pass it until nine days afterwards. The case is as follows:—

Thos. Chas. Higgins, Esq. of Survey House, in this county, purchased a six-year-old horse of a dealer in the neighbourhood. Not being wanted for immediate use, he was turned into a paddock, where he remained for a week. At the expiration of that time he was brought up for the purpose of getting through his physic, and was placed in a loose box away from the stables, and put upon a bran-mash diet. Upon the groom going into the box on the following morning, he remarked that there was a peculiar offensive smell, resembling the effluvia from dead rats; and upon removing the fæces he discovered a piece of sponge, the size of an egg, and which explained at once the cause of the stench.

In order to convince himself that the horse had not taken it during the time he was in the box, he examined his stock, and found that he had not lost any; and he is quite positive that the horse must have swallowed it before he was in their possession, because no sponge had been afterwards used where he could possibly get at it. I have the sponge in my possession, and it appears to me to have been a new piece, and in my opinion has not in the slightest degree undergone the process of digestion.

I once met with the case of a horse swallowing a sponge, the particulars of which I sent to you*. In that case not a particle was voided undigested, but the patient was ill to an alarming degree. There certainly was a difference with respect to their food: one had been kept upon hard meat for two or three years, and the other upon his natural diet, he having been at grass for some months. That being the case, I should have imagined that the sponge would have passed off in a few hours; contrary to which, it appears quite clear to me that he swallowed it previous to Mr. Higgins purchasing him. If you think this case worthy of your attention, perhaps you will insert it in your valuable Periodical, as I wish to have the opinion of some of your talented correspondents upon so extraordinary a case.

FROM MR. ATCHERLEY TO MR. PERCIVALL, ON THE TREATMENT OF DISTEMPER BY MERCURY.

Sir,—Having with much pleasure noticed, in the August number of that important periodical The Veterinarian, your remarks on the effects of mercury on horses, I take the liberty of sending you the subjoined case.

* Veterinarian, vol. xii, p. 323.

On the 20th of May I attended a thorough-bred two-year-old colt, belonging to Mr. T. Walters, of Hednesford: two months before he was attacked by that disease so generally understood by the term Distemper. When I saw him he had frequent and distressing cough, and great enlargement of the parotid glands. Four active blisters in succession had been applied, and other means, to remedy the cough, without any benefit being derived. I then determined to try mercury. In the first place, a gentle aloetic aperient was given, after which, hydrarg. chlorid. 3j, cum pulv. opii gr. vij, were administered morning and night. The diet consisted of mashes of bran and oats, and a little clover hay.

On the sixth morning he masticated with difficulty, there was evident soreness of the mouth, increased secretion of saliva, the appetite impaired, the bowels relaxed, and a pinky margin round each tooth. I discontinued the medicine, and gave a malt mash twice a-day. The cough soon became much better, and the swelling of the glands was much reduced.

By the 20th of June, that is to say, in a month after the first mercurial dose, the colt had entirely lost the cough; the enlarged glands had resumed their natural form, and he is now in steady work, with his wind perfectly clear.

I have the honour to be, &c.

Bridgnorth, Aug. 26, 1842.

CASES OF RUPTURE OF THE DIAPHRAGM, AND OF TETANUS.

By Mr. Joseph Osborne, *Ashbourn.*

Though a constant reader of your valuable Periodical, The Veterinarian, I have not seen many cases recorded of death almost immediately following rupture of the diaphragm. I will therefore take the liberty of sending one, and if it is deemed worthy of insertion, it is at your service.

On the 8th of January last, Mr. Cope, whose pupil I have the honour to be, was desired to look at a black mare, the property of a farmer in this country, who said that, in coming up one of the steep hills that are so plentiful in this county, she stopped suddenly and breathed very laboriously, so that he could hear her at a great distance off. She was unable to proceed for full fifteen minutes, and then she slowly journeyed on with her load, which was upwards of a ton. On coming under our care the following symptoms were presented:—

She was constantly lying down and getting up again—while down she would frequently turn her head to her side—she perspired very much—the pulse was 80, and hard—the extremities moderately warm.

Venesection was had recourse to immediately, and copiously; and opium, combined with ol. lini was administered; but in despite of all our efforts she died in about six hours after the first appearance of illness.

It would be useless to occupy much time in describing the post-mortem appearances: suffice it to say, that on examining the chest the diaphragm was found to be ruptured. The rupture extended about seven inches, and a large portion of the intestines had protruded through the opening. They were very considerably inflamed, and this rupture was doubtless the cause of death.

March 20th.—A brown horse, of the nag kind, was put under our care, labouring under that almost fatal malady locked jaw. The muscles were contracted very much, but those of the head, neck, and abdomen, seemed more especially to partake of the tetanic affection. These muscles when pressed upon felt exceedingly rigid. The pulse was hard, and 50.

An attempt to walk was accompanied with a staggering motion—the tail was erect and quivering. He was bled—a powerful liniment well rubbed on the spine, and a sheep's skin placed on the loins; a strong solution of aloes and pulvis opii was administered. This treatment was repeated until the 29th, when the spine was blistered. The sheep's skins were changed every third day until the 3d of April, when he was dismissed, perfectly well. I have seen the horse frequently since, and he is looking very healthy. *During his illness, no fewer than fifty-four drachms of aloes were given to him.*

I remain, &c.

[We insert these records because we are willing and anxious to encourage in the pupil a habit of observation, and of recording cases that have any claim to originality. The short period that intervened between the apparent rupture of the diaphragm and the death of the first animal, and the great quantity of aloes used in the second case, give considerable interest to Mr. Osborne's narrative. He, and his fellow-students every where, cannot more profitably or honourably employ their leisure hours; and in process of time they will have the gratification of contributing something of still greater importance to the common stock of veterinary science.—Ed.]

ON STABLE TREATMENT.

By V. S.

Knowing that your Journal has a deservedly extensive circulation, and considering that it may be read even among what Mr. St. Clair once designated the strong holds of the farrier and cowleech, I beg to offer you a few remarks, intended for the benefit as well of the farmer as of the legitimate veterinary surgeon.

The feed for horses in the farmer's stable is, frequently, in lieu of being nutritive, of a character far from that, and composed of peas and bean straw, and other articles of a similar nature, indigestible, and containing but little nutriment in proportion to their bulk; hence we have a deranged state of the digestive organs; tympanitis is of frequent occurrence, and thick wind generally. Hence too, I think, we may derive most if not all of those horses commonly termed pot-bellied.

The farmer adopts the use of this provender on account of the supposed economy; but let me ask him, Does he obtain the price for his horses that he might if they were well made and sound in wind?

Again, I would refer you to the treatment of cattle, in which the system of our forefathers is too commonly pursued. The advance made by those who have studied this branch of the veterinary art is disregarded by many who are large holders of this kind of stock; and, although, in the event of disease among their *horses*, they may be induced to consult the regular practitioner, it is not so should their *cattle* be the subjects of visitation. No; here they have recourse to the druggist, or to the cowleech, or to some "knowing" man of their neighbourhood; and drenches of heating seeds and spices are poured down the poor beast's throat, as if the way to extinguish a fire were to put on more lighted fuel: e. g. for yellows you have cummin seeds, aniseeds, fenugreek, &c.; a dose composed of which, in my opinion, resembles currie for the human subject with hepatitis. Red herrings for murrain and for scouring in calves are among the famous remedies of these sages, who are sure to cure their patients, i. e. if they do not kill them.

The humbug of these men renders it imperative on all the members of the profession to press onward in the study of cattle medicine; and I am sure that even a little knowledge of the diseases and treatment of animals will be better than the shameful ignorance that has prevailed—*need I say where or why?*

With best wishes for the advancement of veterinary science,

I am, &c.

ON THE EPIDEMIC AMONG HORSES IN 1840.

By Mr. Thos. P. Page, *V.S., Tunbridge Wells.*

[This paper was accidentally mislaid at the beginning of 1841. There is too much good matter in it to permit it to be lost. —Ed.]

The first appearances differ very much—some horses seeming to have an attack of spasm of the bowels, with a very remarkable twitching of the muscles of the abdomen, while others put on that appearance so well known, viz., watery eyes, quick pulse, hurried respiration, stiffness of limb, loss of appetite, miserable appearance, with a very sore throat which generally attends the whole of those who are infected.

In two or three days the legs swell enormously, and in some cases emit a very offensive discharge from the heels, especially in cart-horses.

As the disease advances the eyes are quite closed, the pulse never (in my opinion) allowing venesection : in fact, I have not bled but two out of sixty-four or sixty-five patients, and they were afflicted with chronic disease of the respiratory organs previously.

The treatment is very simple if properly attended to, consisting of small doses of aloes, with nitre, tart. antim., and soft soap, twice in the day, until the bowels are moderately open, being careful not to give too strong doses of aloes, as of all things to be avoided is superpurgation. In fact, I have seen such dreadful havoc produced by it, that I dread it in this disease.

I should say that ʒss of Barb. aloes in each ball is quite sufficient, and this, generally speaking, should be left off on the second day.

I also insert a seton under the throat, which I keep well anointed with ung. tereb.

After the worst symptoms are gone off I give oatmeal in the water, carrots, Swedish turnips, and a fortnight's run in a loose box, and then they are generally fit for work again.

In two or three instances the disease has returned with redoubled fury, accompanied by immense discharge from the nose and enlargement of the submaxillary glands, but ultimately subsiding, and health being restored.

I have had upwards of sixty patients within the space of a month, and have not lost one.

With regard to the disorder being contagious, I say distinctly *No.*

ON THE DIVISION OF THE FLEXOR TENDON.

By Mr. Charles Wills, *V. S., Londonderry.*

I should not have sent the particulars of this operation to you, but looking over The Veterinarian prior to my performing it, I found a case related in the February number, page 67, by Mr. Carlisle, and one in the March number, page 138, by Mr. Ramsden. There is a difference in the way in which the operation was performed by these gentlemen, and you solicit some practitioner to take up the subject.

Although this is my first contribution to your valuable periodical, I have been in the constant habit of reading it during the last seven years, and hope I shall not be considered presumptuous in commenting on the mode in which, in my opinion, the division of the flexor tendons may be best performed.

Aug. 11.—I operated on a chestnut mare, the property of Richard Harvey, Esq. The animal was useless for work, and had been turned out to breed. In 1840 she produced a promising foal. In 1841 she cast her foal, which was thought to be from the pain she suffered. She is also stinted this year. A day or two before the operation the groom called on me, by desire of his master, to know whether I could do any thing for her. I ordered her to be brought to me before I would give my opinion. She accordingly was brought, and I at once stated it as my opinion that the leg might be restored to its natural position. She was left at my establishment.

Knowing that when the extensor muscle lost its opposing power it would have a tendency, through the medium of the tendon, to elevate the toe from the ground, I thought first of adopting Mr. Ramsden's plan; but the impracticability of applying a roller or bandage above the knee induced me to think of some other mode of proceeding. I, therefore, had a shoe put on the foot of the affected leg which projected five inches behind the foot, with calkins an inch high. This had the desired effect; for when the animal rested her weight on the heels they acted as a lever and forced the toe to the ground. Being very low in condition, she needed no farther preparation. I had her thrown.

It not being of any consequence whether the mark of the operation would shew or not, I commenced by making an incision through the integument an inch long on the outer side of the leg, mid-way between the knee and pastern. I freed the tendon from its cellular connexion with other parts, and then, with a probe-pointed bistoury, I made a transverse section through it,

put in one suture, applied a tight bandage, and let the animal up. I removed the bandage on the third day, and applied a little turpentine liniment, which was repeated once a day for a week, by which time the granulations had quite filled up the orifice. Mild caustics and astringents were then used for another week, when she was turned out to grass.

The operation was performed only a month ago—the wound is quite healed, and she is very little lame.

While I was writing this I was consulted about another case of the same character. If I am employed, and you do not object, I will send you the result.

[We shall always thankfully record the slightest improvement in our art.—Ed.]

A CASE OF TUMOUR ON THE MESENTERY AND TRICUSPID VALVES OF THE HEART.

By Mr. Thomas Mather, *V.S., Edinburgh.*

Desirous that the prosperity of The Veterinarian may continue, and that this journal may be more actively and successfully employed among us in the dissemination of useful knowledge, I beg leave to send you the following rare and interesting case:—

The patient was a black pony, five years old, having been in the possession of the owner for nearly two years. During this time he had repeated attacks of influenza, but he ultimately recovered so far as to do his daily work.

On the morning of the 27th of July last, however, I was sent for to examine him again, as he had fallen suddenly lame during the previous night, and was supposed by those who saw him to have been affected with a spasmodic action of the flexor muscles of the leg. Being engaged at the time, I found it impossible to attend until the afternoon of the same day.

On my arrival I found him in the most pitiful condition. He was very lame on the off-hind leg, apparently in the hock, or rather in the anterior and superior head of the metatarsal bone. He groaned when pressure was applied to the part—was very unwilling to turn round, or even to move in the stall—the pulse was intermittent and could scarcely be felt, either in the radial or submaxillary arteries—the respiration was quick—there was great heaving at the flanks—the nostrils were dilated—the mem-

branes of the eyes and nose a little injected—the extremities of a moderate temperature—the appetite impaired—and the bowels constipated.

These symptoms, I was inclined to imagine, might arise from the pain in the hock joint setting up sympathetic fever. I did not, however, arrive at a correct diagnosis of his case until my ear was applied to the left side of the heart; and there I distinctly heard an irregularity in its systole and diastole. I, therefore, came to the conclusion, whatever was the cause, that the derangement of the system was owing to some morbid lesion in the central organ of circulation.

Notwithstanding this, however, I had the foot examined. The lameness was evidently inflammation of the hock. I considered that, as he was in good condition and his dung consisted of solid balls, a dose of physic was indicated, which he had, and an enema, with directions that the inside of the hock should be well fomented three times a day. I kept him warmly clothed, and his diet consisted chiefly of a barley mash with a little green food. I desired that I might be informed if he appeared to be worse in the evening.

28*th.*—He is a little livelier to-day. The dung of the consistence of that from a cow. He has great thirst, and is allowed some very thin gruel. He eats the mash with appetite.

29*th.*—I could not see him to-day, but was informed that the symptoms were not so favourable as yesterday.

30*th.*—He is worse. The intermittent character of the pulse is more decisive; there is, also, evident prostration of strength. The extremities are rather cold, and the heart has a most peculiar irregular action. I gave him sulph. ferri ʒij, cum pulv. zingib. rad. ʒj, made into a ball; likewise had him hand-rubbed, and bandaged the legs.

31*st.*—No better. The weakness still increases. He cannot get up to take his gruel, which, however, was accomplished as he lay. The tonic medicine was repeated twice in the day.

Aug. 1*st.*—Metastasis has taken place, and the lameness now affects the near hind leg: continue the tonics twice a day. Beside his gruel, he has some sliced carrots.

2*d.*—Quite paralyzed in every extremity—the pulse indistinctly felt—regurgitation of blood in the jugular veins. Give carb. ammoniæ ʒij in his gruel.

I continued to give him small quantities of this medicine twice a day with his gruel, which we have now to horn down for him.

On the eleventh day from the attack the symptoms grew worse. The breathing was quick and laborious—the eyes were sunk in

their orbits, and the pupils dilated—the extremities very cold, and the pulse difficult to be felt at the jaw. On auscultating the region of the heart, I could scarcely hear it beat more than three times in a space of five minutes. The undulation in the jugular veins was extending to nearly the root of the ears, and his countenance betrayed approaching dissolution. He expired a very few hours afterwards.

Sectio Cadaveris, about twelve hours post-mortem.—I hastened to have him examined; and when the contents of the abdomen were first exposed *in situ* there was not any material difference in their appearance from that of health: in fact, there was not the slightest mark of disease on the coats of the intestines. When they were opened, the small intestines were found to be filled with a whey-coloured fluid of a somewhat yellow tinge and of a most offensive smell, as also a little quantity of half-masticated grass swimming in the fluid. On pushing my hand nearer the spine I grasped a mass about the size of my fist, which, on pulling it out, I recognized as an enlarged mesenteric tumour, adhering firmly to the root of the mesenteric glands. On cutting into the pelvis of the kidneys a small drop of purulent matter escaped. The liver was of a livid blue colour, and very friable. Two calculi were firmly impacted in its substance. The spleen was enlarged and turgid with blood; and the bladder distended. The remainder of the viscera were perfectly healthy.

I next proceeded to open the chest by sawing off a portion of the ribs and sternum, in order to have a full view of its contents. The lungs exhibited marks of disease of a chronic form; the whole surface of the left lung was covered with spots of ecchymosis, and one portion of the pleura adhered to the side of the chest. This I accounted for from his having had an attack of pleuritis some time previous to this illness. The pericardium was much inflamed, and its cavity contained a fluid of a reddish colour, and in a considerable quantity.

The parietes of the heart were covered with patches of bloody spots. On making a section of the right auricle, and continuing the incision downwards, a large indurated tumour came into view, firmly adhering to the tricuspid valves, and which so completely blocked up the right auriculo-ventricular opening that scarcely more than the point of my little finger could be introduced. The mitral valves of the left side were also a little thickened, and the greater part of the chorda tendinea. After this there could be no doubt as to the cause of death.

Question:—May not this abnormal structure arise from the heart being diseased, along with the other organs, in the repeated attacks of influenza? If so, then it may be possible that the

epidemic which has lately prevailed consisted chiefly of a disease of the heart. In corroboration of this, I can assert that, in all the cases which I have had an opportunity of examining after death, this organ was more or less diseased.

ON THE EPIZOOTIC DISEASES OF CATTLE IN 1839-40.

[Continued from page 451.]

[When describing the epizootic disease of cattle that occurred in 1839-40, I alluded to a letter from Mr. HUTCHINSON, V.S., of East Retford, which was reserved for some future opportunity. It is peculiarly interesting and valuable, on account of the detailed history which is given of so many of the cases. Our readers will not object to our inserting it at very considerable length.—Y.]

July 7th, 1840.—MR. GAMSTON had seven milk cows. The first of them was affected on this day, and the others were ill on the third day. I found them with a large quantity of saliva hanging about the lips, and they constantly *champing* with a peculiar sucking sound—the eyes dull and sunken—disinclination for food—yielding about half of their usual quantity of milk—frequently lying down—the flank presenting a hollow, empty appearance—and all of them being excessively lame. Upon examination I found the tongue one complete mass of blisters—the skin, by the least force, was drawn completely off—a considerable portion of the heels of the horny sole had separated.

I commenced my treatment by paring the detached portions of horny sole away, and dressing the feet with a solution of sulphate of copper. To some of them I applied a poultice for twenty-four hours. I gave to each an aperient draught, consisting of sulphate of magnesia, nitrate of potash, resin, and aloes, with ginger or some aromatic powder, in warm water: I also ordered them to be drenched freely with linseed cake gruel, to be fed upon clover, and to be kept in.

On the following day they all, excepting two, appeared much better; these I bled to six pints, and repeated the aperient draught. To the others I at once gave a tonic draught, composed of sulphate of copper, ginger, and some other aromatic powders, with nitrate of potash and yellow resin, dissolved in

warm water. I also re-dressed the feet, and turned the cattle out during the day. The tonic draught was repeated daily for two or three days. They then began to feed and to yield milk as well as before. Some of them remained slightly lame during a week or ten days.

The milk was used in the family during the whole of the time; and, afterwards, the cows gave more milk than prior to the attack of the disease.

These cows had been running in a field next to the Great North Road, and, possibly, they might have come in contact with some diseased animals passing thereon.

The pigs in the yard exhibited the same complaint on the second day after the cows.

July 8th.—Mr. Marsden Morton had twelve young bullocks and heifers, nine of which became affected; the other three escaped, although running in the same field. Three of them were bled; and as they became affected I had them removed into a separate pasture. The treatment was the same as in the former case; they lay up at night, and ran in the field during the day. They had been running on a piece of forest seeds, by the side of which was a road, and a quantity of very lame sheep, going to Rotherham market, had passed a few days previously.

28th.—Eight milking cows upon the same farm are affected. Treatment the same as before. Four of them are rearing calves; the other four are used for the family. The milk was used the whole of the time. The calves are now healthy, and have never had the least symptom of any thing of the kind in them. One of the cows was very bad from indigestion, but, as soon as the stomach was freely acted upon, she recovered.

Aug. 1st.—Mr. Gyles, Treswell, had three cows affected. One was rearing a valuable calf. The calf was removed into a shed by itself. The cows in four days recovered by the treatment as before. The calf became suddenly bad on the 12th, but soon recovered.

Sept. 27th.—Twenty-nine Irish cows, belonging to the same farmer, were running in some marsh land at Treswell. Twenty-two of them became affected and lame. Treatment as before. The feet were not dressed. The diseased ones were moved into another field as they became affected, but were not housed at night.

Oct. 7th.—Five milk cows, at Eaton, belonging to separate cottagers, are bad and lame. Treatment the same, and to be turned out at days, and up for the first two nights. Milk used in their families as usual.

At Ollerton, nine heifers affected. Treatment the same.

Oct. 22*d.*—Twenty-two heifers are grazing in some low meadow land at Clayworth : three only received the disease. I removed them into a separate pasture for a few days.

30*th.*—Thirty-six, viz., six milk cows, eight feeding bullocks, and the remainder strawyard beasts, are bad at Hodseek. The disease first appeared amongst the bullocks, and in three days had extended to the others. The bullocks were tied up. Twelve pounds of linseed cake daily were ordered for each. There was no possibility of their coming in contact with any others. In fact, there was nothing of the kind near the farm. The milk of the last three cows was used, and the calves were fed with it as usual.

Mr. G., Ollerton, had twenty-two strawyard and four milk beasts affected. They had the tonic draught alone for three doses, and did well.

Nov. 7*th.*—Two milk cows, belonging to Mr. Bower, Retford, are in a field by themselves: one only is bad. Three doses of the tonic powder were sufficient.

13*th.*—Two milk cows at Retford are both bad and lame. Give the tonic draught for three days—not dress the feet. The pigs in the stye are bad.

14*th.*—Ten rearing calves on the forest had one dose each of the tonic medicine.

27*th.*—Four milk cows on the same farm are bad. Treatment as before. They have done well. They had four doses each.

Dec. 11*th.*—One of the four cows had calved about six weeks previous to her attack, and has now got violent inflammation of the mammæ. Bleed, foment, &c., as in simple mammitis.—16*th :* Matter has formed, and she is giving very little milk ; so that she will only be fit for feeding. This is the first case I have had of the disease so terminating, although many of them are very sore about the teats, to which I have applied the alum and sulphur as recommended in " Cattle."

Nov. 4*th.*—Mr. Bebnorth, ——, bought a heifer about ten days ago. She has had the epidemic, and her teats are now very sore. This day several pigs were perceived to be lame in the foldyard. I separated them from the others, kept them in a loose open shed, and gave to each about ʒij of the aperient powder mixed in their food.

19*th.*—This day the disease has made its appearance amongst the cattle—eight bullocks are bad. The yards contain about fifty feeding and straw beasts and twenty milk cows, all of which have been affected except seven at straw. I gave to each at the commencement the tonic draught, and turned them into a piece of seeds during the middle of the day, feeding them on turnip-

tops (they could not eat turnips) and hay, with plenty of linseed-cake gruel. Some of them are very lame, after being attacked from thirty to forty hours. Repeat the tonic draught daily, excepting where the animal appears more than usually dull and constipated; then give one of the aperient draughts with a pint of linseed oil.

They were all going on well—getting out of hand with about four doses each, until Nov. 25th, when a small heifer was off her food—very dull—eyes contracted within the orbits—frequently down, and appearing very low and weak. She dungs, but not freely—she is suffering from indigestion and constipation. Treated her by stimulants, linseed oil, and aperients. Upon examination of her fæces, they present the usual appearance; but when crushed are found to be made up of a complete mass of reddish dark sand. She continued to get worse until Nov. 27th, when she died.

Upon a post-mortem examination, the small intestines were found inflamed and contained a great quantity of dung, principally sand, as if mixed into pellets with some adhesive moisture. The abomasum was filled with a fluid of the consistence of cream; it also contained a great deal of sand. The stomach was healthy, but full of half-masticated food. She had been on the farm about twenty days.

On the day on which she died, a good milch cow appeared similarly affected. She discharged a great quantity of saliva from her mouth. Her principal employment consisted in sucking the saliva from the bottom of the manger. The bowels were at first constipated, but in about thirty hours afterwards she began to purge, but did not appear relieved. She continued to gradually sink until Dec. 2, when she died. Two days previously the discharge from her mouth had ceased, and she would drink gruel.

The post-mortem examination did not differ much from what was generally presented in such cases;—full stomach, tenderness of the lining membranes, inflammation of the small intestines, &c.

Three other milk cows were also very ill—off their food—disinclined to move—loss of cud—bowels inclined to be costive—pulse weak—horns and extremities rather cold. In a few days they recovered, by treating as for indigestion. The whole of these fine animals had the disease to appearance favourably, when, about the fourth or fifth day, they appeared to be taken worse. I should, however, certainly say that dyspepsia seems to be one of the terminations of the disease.

Dec. 21*st.*—Mr. G., Ollerton, bought fourteen young heifers

from a jobber: they had travelled some distance, and had had the disease previously. I saw them to-day. They can eat as well as any other stock, but are excessively lame. Two of them have lost a hoof from the hind feet, and the horny sole is completely separated in nine of the others. I pared all the detached portions, and dressed the feet with a solution of copper, allowing the parts to be exposed. I also gave to each a tonic draught.

Dec. 23*d.*—Three of them are still excessively lame, and will require time and patience. I repeated the dressing and tonic draught. The others look much better and fuller.

Dec. 21*st.*—Four milk cows, near Allerton, have the epidemic: they have been treated by the owner with salts and sulphur. Three of them are now bad from mammitis, and I think they will lose one-quarter each, if not more. I am now treating them for mammitis, but I think that, if the animals had been properly treated from the commencement by tonics, the result might have been different.

Dec. 22*d.*—Mr. Gravenor Hedbrey had nine milk cows: I did not see them, but sent the tonic powders, by taking which they soon recovered.

Some young stock became affected, and at the present time his milk cows are again suffering from the disease. This is the only case I have been connected with where the same animals have been twice affected.

Dec. 23*d.*—A cow, at Lound, had been treated by the owner. He has this day sent for me to her. Her hind quarters are much swollen, and her teats are very sore. I am treating her as for mammitis: perhaps this severe frost may have some effect upon them.

I will now turn to your questions, and endeavour to give you an answer on the various points.

Locality.—East Retford is situated on the river Idle, the Great North Road running through it. The east is hilly grazing land; the west—embracing part of Sherwood Forest—is a light sandy soil; and the north, a deep strong clay soil.

First appearance of the epidemic.—My first cases were on July 7 and 8, 1840, but the disease had been in the neighbourhood in the May previous.

Had these cattle any communication with other stock?—Most certainly not, in many cases.

Did they travel along the road on which infected animals had travelled?—In many cases they did, and thereby received the infection.

Did any servant, or other person, that had attended on other diseased animals, come in contact with these?—I think we

cannot trace the disease to this cause. I have been a strenuous advocate for not meddling with any stock that is apparently free from disease, such as giving them medicine by way of a preventive; for, simply by the act of forcibly holding them by the nostrils, we are liable to wound the mucous membrane, and we may then set up a certain degree of inflammation or irritation which may produce or predispose to this disease. There often seems to be a predisposition in the animal, which is only waiting for some slight cause to shew itself.

What is your opinion as to the infectious quality of this disease?—I am perfectly satisfied that, where the disease has made its appearance, it becomes highly infectious; but still I think there must be, in most cases, a predisposition in the animal to take the disease. In many farms, only one part of the stock has become affected, although all have been subjected to the same exciting cause and the same course of food. I think I cannot do better than quote your own words as to the origin of such epidemics: "As to the cause of 'the present epidemic,' I see but little good that can result from puzzling ourselves much about it. Atmospheric influence is plainly connected with, and is the main agent in, the rise and progress of this disease." I think the disease is not only infectious to the same species, but even an infected animal, such as the cow, has the property of giving the disease to the sheep or pig, and *vice versâ*.

What where the earliest symptoms? Did they appear primarily in the feet or mouth?—In some it commenced by lameness, but I should say, in the majority of cases, the mouth becomes first affected. Many, however, have been the cases where it would be difficult to say which was the primary symptom, so intimately have they been blended together.

Describe the gradual progress?—In describing the gradual progress of this disease, I should say the cow-herd that is constantly among his beasts may detect the disease some hours before either the mouth or feet are perceptibly affected. They commence, if in the field, by singling themselves from the others; not to lie under the hedge, but by remaining in the part of the field where the sensation appears to have first come over them. The eyes look dull, and sometimes weeping. There is disinclination to move, and when moved they appear stiff or lame—the lips are swollen—and there is a peculiar contraction of the under lip, so as to give it the appearance of a very small chin. As the disease progresses, the mouth is hot—the buccal membranes white and thickened, particularly on the top of the tongue and under the upper lip. In a few more hours the membrane becomes raised, and we may feel a fluid under it. The

animal is now discharging saliva from the lips, which hangs from the outer angles of the mouth, and he is constantly sucking his under lip with a peculiar smacking noise, difficult to be described. In a few more hours the membrane covering the blisters becomes loose, so that it can be easily forced off, but not without pain to the animal. The disease is now fully established, for the animal will not feed. Then comes loss of cud, and the dung rather softer than usual, with a slight greasy appearance. The disease, in general, runs its course rapidly. In from ten to sixteen hours after the first appearance of disease, the membranes on the tongue often come off, but I have frequently found they are better let alone, until we can get the membranes to slough entirely off.

Treatment, particularly the question of bleeding and physic.—When first called in, I commenced my treatment by administering a mild dose of cathartic medicine. I then removed all the portions of detached membrane from the tongue and roof of the mouth, and ordered them to be drenched twice in the day with linseed cake gruel. If they were much lame, I applied poultices to the feet, and in a few instances bled to three quarts, and gave them a mash of bran when they would eat it. On the following day I gave a tonic draught, and dressed the feet with a solution of zinc or copper, and turned them into the field during the day. I ordered them to be milked thrice instead of twice during the day, and found that by this mode of treatment they invariably recovered in three or four days.

Such was my treatment two months ago. I now commence by the tonic draught, and repeat it daily. I do not dress the feet, feed them extra on linseed cake and gruel, turn them into the field during the day, and feed them upon turnip-tops and hay.

The following are my conclusions as to the treatment of this epidemic:—feed the animals upon the same food as previously to being attacked, only allow them an increased quantity of cake, which if they cannot eat may be given them in the form of gruel, so as to force them. Give no opening medicine, unless you find the bowels costive, which is very seldom the case in the commencement of the disease, as I consider it is on account of the bowels being so much and so frequently acted upon that we have it terminating in mammitis and lameness of the feet. I have found by giving the tonic medicine only, even where the animals were lame, and in some cases severely so, that they have soon recovered (in three or four days) without any application to the feet. This is a great consideration in labour alone, without expense, as forty or fifty cows could not have their feet dressed without the assistance of two men at least. Where they have not been previously housed I have found that they have not required it;

on the contrary, they do much better by being turned on grass or seeds during the day, and fed upon turnip-tops and hay, and at night taken into the straw-yard. Not in one single case have I found it requisite to apply any lotions, &c. to the ulcerated surfaces on the tongue, &c.

Bleeding I consider they do not require, as, in those cases where I used the fleam, I am satisfied they would have been as well without it. I never bleed in any disease unless I have an evident cause for it, such as violent local inflammation or pain, with a bounding pulse; and such has not been the case with the epidemic in this neighbourhood.

Physic stands on the same ground; I never use it unless I have some purpose to accomplish. The old school often beats us, simply by giving stimulants; and I am satisfied that, in cattle practice, we cannot do without them. I seldom give more than ℥viij magnes. sulph. and ℥ss aloes vulg. as a common dose of physic, and find it answer much better than large doses of salts alone.

Duration of disease?—In my practice from two to five days, and then passing away, or terminating in indigestion, constipation, mammitis, &c., forming a distinct disease.

Patients, and results?—I have attended nearly three hundred cases, all of which have soon recovered, with the exception of two.

Number of diseased animals, and general results?—There is scarcely a farmer within seven miles of this town that has not had some experience of it: it is at the present time running its course in this district, and in most cases ends favourably.

What alteration took place in the milk?—In my opinion, the milk is seldom much or injuriously affected. I have known it used in many families, and in all ways, but in no one instance has there been any bad effect from it. Eight calves, in one instance, were sucking four cows that had it severely, and not one of which became affected. They did not run with the cows, but were tied up, and the cows brought to them twice a-day.

How far did the condition of the animal, or his age, influence the complaint?—I cannot say that age or condition appeared to make any difference: all appear to be subject, big and little, strong or weak, on some farms; one appeared to have the advantage; and, perhaps, on the ground of his next neighbour, the contrary occurred.

Had it connexion with other diseases?—I cannot say that I have seen any cases where such were the case, nor have I heard of any.

Did it influence the after-condition of the animal?—In the

generality of my cases the animals have thriven more than usual when they have been tied up. They have eaten more turnips than they did previously; they also appear to eat their cake with a greater zest. The same with out-door stock—they lick themselves more; but in some few it has taken a considerable time before they appeared to feed as usual.

Has the disease appeared a second time in the same animal, and with what degree of intensity, and what results?—In only one case have I known the same animals affected twice.

AN ACCOUNT OF THE EPIDEMIC AMONG CATTLE IN 1842.

By Mr. W. Cox, *V.S., Leek.*

The first appearance of the animals being unwell is a slight hoose. They appear dull and moping—they feed very slowly and carelessly—rumination is sluggishly performed, and they are almost continually in a recumbent position. The coat has an unhealthy appearance—the pulse is seldom much increased in number, but oftener has a character of oppression. These symptoms continue. Constipation takes place, and then every symptom is increased in intensity; the respiration is much accelerated, and the pulse is increased in number and irritability.

By the sixth or seventh day, when the disease, taking its usual course, may be said to have reached its acme, the symptoms are become exceedingly alarming. Every expiration is accompanied by a deep groan, shewing that the parenchyma of the lungs is become involved. The pulse is now ranging from 90 to 130, very irritable, and sometimes irregular or intermitting. Feeding and rumination are suspended—the milk is all gone, if the patient is a milch cow: the nose, ears, horns, and extremities, are alternately hot and cold—and a kind of frothy spume works out of the nose and mouth. The animals continue in this state from four to seven days, until convalescence takes place, or death closes the scene; or, perhaps, they only linger a short time after this period, to die a more miserable death from hydrothorax or consumption.

The remote and proximate causes of the different epidemics that have of late years been prevalent in our country is an interesting but mysterious subject. Atmospheric agency appears to be the cause of the disease in question, yet I believe it to be in some degree infectious. I remember, last spring, a farmer buying a cow that was evidently sickening of this disorder, and she was

put into a cow-house with several other cattle. Soon after this every one became affected, while some others in an adjoining place escaped. Where the infected animals have been removed, and disinfectants freely used, its ravages have been stayed. Such are my observations on this head.

From the early symptoms and the post-mortem appearances, I believe that the disease is of an inflammatory character and primarily attacks the lining membrane of the nose, trachea, and bronchial tubes.

Post-mortem appearances. — The mucous membrane of the trachea and bronchi I have sometimes found ulcerated and eroded, and filled with pus. The bronchial glands are enlarged and turgid with blood, or suppurating. The substance of the lungs is first hepatized and enlarged, and then ulcerated and softened, and to that extent, that it may be torn with the greatest ease. Its cells are filled either with serous fluid or with grumous blood, and, still oftener with purulent matter. The inflammation extends to the pleura and to the pericardium and diaphragm ; and, in lingering cases, there is generally effusion in the thoracic cavity.

Before I enter on the treatment, I would impress on the minds of your readers that it is impossible to lay down any specific plan for our guidance in such a complicated disorder. The observation and skill of a most experienced practitioner are indispensable. I have, however, been generally successful in restoring the animals to health, if I chanced to be called in before the disease had made much progress, and the case was put entirely under my care.

In the early stage of the malady, I bleed, and sometimes freely. Although I seldom bleed more than once, I have bled a third time with good effect. Attention to the pulse and the state of the membrane covering the vagina and conjunctiva, will usually tell the practitioner what he is to do.

I have abandoned rowels and setons for strong vesicatories, applying them from the larynx down to the sternum, and likewise the sides of the chest ; but this should be done in the early stage of the malady. If called in at first, and constipation exists, and certainly in any stage of the complaint until the bowels are in a regular state, I give the sulphate of magnesia, the supertartrate of potash, and the carbonate of soda, twice in the day. The bowels being opened, opium is my sheet anchor, combined with powdered digitalis.

If the disease has reached its second stage, I trust to opium alone, or in conjunction with oleum lini. This seems to have an almost specific effect in allaying the symptoms and regulating the bowels. It may be given in doses of from a few ounces to a pint.

A POPULAR LECTURE ON THE PREVAILING EPIZOOTIC AMONG CATTLE IN IRELAND IN 1842:

DELIVERED IN DUBLIN.

By Hugh Furguson, *Esq.*

Gentlemen,—A period of nearly three years has elapsed since the first appearance in this country of a peculiar epizootic among horned cattle, the chief characteristic of which was a pustular affection of the mouth, nose, and feet. Previous to being observed in Ireland, it had existed for some short time in the sister island, England, to which, like many epidemic diseases of the human species, it had travelled from the far east by a rather circuitous route, traversing both shores of the Mediterranean, and then committing sad devastations among the herds of cattle in Spain, France, Switzerland, Holland, Belgium, Bohemia, Hungary, and Prussia, before it became the unwelcome visitor of the British islands. Fortunately, this disease was short in its sojourn, mild in its effects, and extremely easy of treatment, especially in cattle, yielding to the simplest remedies, and often to the unassisted efforts of nature. The property of its being capable of being imparted in a mild form to sound animals, by inoculation, was a fact which I discovered while attached to one of the continental veterinary schools. It proved a means—where the expedient was had recourse to—of guarding against those immense losses which invariably befel sheep farmers, where it attacked their flocks during the lambing season. Like the small-pox in the human subject, ruminants were scarcely ever attacked a second time with the pustular distemper. Therefore, by inoculating the ewes some time before the lambing season, the disease was favourably passed over before that period arrived when any infectious derangement in the mother generally proved fatal to her offspring. Unfortunately, although the pustular disease was so mild in its effects on every description of animal which it attacked, lambs excepted, it was, in all countries which it visited merely the precursor of one of the most fatal forms of distemper that has been known to exist within the present memory of man. The distemper to which I allude is that which at present reigns with sad mortality through almost every county in Ireland. It has now been in this island nearly eighteen months, during which time the fatality among neat cattle has been, in a proportion of twenty to one, greater than at any former period.

The present form of distemper, unlike the pustular one which preceded it, is neither infectious nor contagious. Its principal seat is in the organs of respiration, particularly the lungs, their covering, the lining of the ribs, and the membrane lining the numerous divisions of the windpipe which convey the air to the different parts of the lungs (lights) in breathing. The manner in which the lungs are affected is not similar to any other affection hitherto known. The disease seems first to commence in the lining membrane of the air tubes and cells forming the greater bulk of the lungs. Inflammation is set up in this membrane, and, instead of its increased secretion being of a mucous character, such as man "spits" or "coughs up" when affected with a severe "cold," it becomes changed to a plastic or adhesive character, being formed from that portion of the blood called its lymph, or the matter with which nature principally forms new parts, and repairs any losses that may occur to the frame.

This lymph, when it becomes secreted in the air tubes and cells of the lungs, remains there, its adhesive or plastic qualities causing it to adhere to the parts so very strongly, that the animal cannot expel it in the same manner by coughing, as she would dislodge an accumulation of mucus from the bronchia.

Generally, only the lungs of one side of the chest are at first affected. If those of both sides are attacked at the same time, death shortly takes place from suffocation. Lymph becomes deposited also in the other parts which I have mentioned as the seat of disease, especially the fabric of which the lungs are composed.

In some cases the cavity of the chest, on one or both sides, is filled with water: when this happens, the case is almost hopeless.

The exciting cause of all these changes, and of every epidemic or epizootic disease, appears to be connected with some peculiar state of the atmosphere. Yet, in what this peculiarity consists we have, in the present state of science, no means of deciding. We cannot, by the most minute analysis, detect the slightest difference, in the component parts of the air, in which we well know, from deductive reasoning, the subtle poison lurks, and of which, perhaps, man, with all his powers of investigation, even strengthened by future discoveries, will never be able to take cognizance, excepting through the medium of the disastrous effects which it produces, not alone on those animals which he has made subservient to his use by domestication, but also on himself.

To some this may appear an object of wonder, when they consider the great and surprising discoveries that have been made in the science of chemistry. But is it more astonishing than the fact of the air of a chamber strongly impregnated with a perfume (musk, for example), of which we are made immediately aware by

our sense of smelling, evading the detection of any addition to its usual component? If a quantity of musk is weighed after its having remained for years in an apartment, it will not be found to have lost any appreciable quantity of its original weight, although the air of the chamber will have been strongly impregnated with the perfume during the entire period of the time which the musk may have remained in it. The ablest chemist cannot detect the existence of the particles of perfume in the air through the medium of any other analysis than the test with which he is supplied by bountiful nature, namely—his nose. This fact is offered as a beautiful example of the superiority sometimes evinced by the powers of instinctive nature over those resulting from an artificial acquirement. In the same manner the miasma or poison of the atmosphere is detected by its producing specific effects on different organs and tissues of the living frame.

Granting the position, that the exciting causes of some epizootic and epidemic diseases rest in the air, the question naturally suggests itself—how does the vitiated atmosphere produce its effects? Is it by coming merely into contact with the part affected, or is it through the medium of respiration that the blood becomes affected, and then in its circulation disseminates the noxious principle it received from the air throughout the entire system, in order to exert itself on the different parts susceptible of its action? By those unacquainted with the science of medicine it may be asked—what is the reason that every portion of the animal is not affected, all parts being supplied with the same blood; every drop of which, according to the explanation just given, must have been equally impregnated with the noxious principle as it passed through the lungs in the function of respiration?

This question, I apprehend, is one of much easier solution than may be possibly imagined. It is fully answered by admitting that, for any thing to be acted upon by an agent, it requires to possess a certain degree of susceptibility. Thus, if half-a-dozen sticks of sealing-wax were placed beside each other, one or more of them being heated, and then all the six exposed to pressure, by passing a roller, having a pattern cut on it, over them, it will be found that those only that have been rendered susceptible by heat will receive the impression, although they all have been exposed to the same degree of pressure.

The same principle may be applied to the animal frame, which is a most complicated piece of mechanism, composed of a variety of parts having different characters and degrees of susceptibility.

The subject admits of a still more scientific explanation. It is universally admitted that the cause of epizootic disease is generally an aërial poison. Its being a poison of this character, we can re-

cognise it only through the medium of its effects; nevertheless, in this instance, satisfactory deductions can be drawn from analogical reasoning. There are many tangible forms of poison, which, no matter how taken into the system, when destructive to life, produce the same specific effects on certain parts.

Arsenic, when applied even to the external surface, causes with fatal effect, inflammation and ulceration of the stomach.

Tartar emetic, when injected into the veins, excites most violent vomition, an effect precisely similar to that which takes place from its being administered internally. These facts clearly prove the extraordinary susceptibility of some parts to be acted upon by certain agents. With respect to epidemic and epizootic diseases, to use a chemical term, there are some parts of the frame which have a much greater affinity for the diseasing principle than others, the product resulting from their combination being the disease. This mode of explanation, although extremely figurative, is yet the most expressive that suggests itself to my mind.

I have stated that the exciting cause of the disease appears to exist in some peculiarity of the atmosphere; but of what the peculiarity is, in a physical point of view, we cannot ascertain, being made aware of its existence only through the medium of its disastrous effects among our herds of cattle. In alluding to the seat of disease, I described the air tubes and cells of the lungs as being frequently completely plugged up with lymph, and also the cellules composing the framework of these organs.

The disease, however, does not always confine itself to the lungs, but extends also to their covering, and the lining of the ribs.

The animal gets what is commonly called pleurisy as an additional complication to the affection of the lungs. The pleural membrane (i. e., the covering of the lungs and lining of the ribs) becomes acutely inflamed, pours out lymph from its surface, and also a quantity of bloody serous fluid, which, accumulating within the chest, presses on the lungs, and eventually causes death by suffocation.

Sometimes formations of pus (matter) take place in the previously solidified structure of the lungs, the abscesses not very unfrequently breaking into the chest, or some of the divisions of the windpipe. But, generally, the animal dies long before any of the effused lymph becomes changed into matter.

One of the most extraordinary features of the present distemper is the little tendency the solidified lung has to the formation of abscess. In this respect, the disease is unlike ordinary inflammation of the lungs, in which, when any part of these organs becomes solidified, formations of matter in their structure frequently become in a short time a cause of hectic. In the present distemper the liver is frequently found enlarged—hardened to an extra-

ordinary degree in some parts, and much softened in others. In many instances, I have remarked that the tendency to effusion of lymph did not confine itself to the organs of respiration, but also extended to the surface of the animal, forming large tumours on the sides, and tumefaction of such magnitude about the neck, as alone, from the pressure on the throat, would be a sufficient cause of death. Indeed, it would seem that the most prominent feature in the pathology of the present distemper is an effusion of lymph.

Although the pustular affection which preceded the present epizootic was highly contagious, the latter, I believe, from much observation, not to be at all so. Neither, therefore, is it infectious.

The terms "infectious" and "contagious" are frequently synonymously applied, but in point of meaning they are widely different. By "infection" is understood the power a disease possesses of being propagated from one animal to another, through the medium of the air alone. A disease being "contagious" implies the necessity of the healthy animal coming in actual contact with the sick one, or at least some of the secretions of the disease, before he can become affected, or receive the diseasing principle. There is no infectious disease which is not necessarily a contagious one; but there are many highly contagious diseases that are not at all infectious. Of the contagious, but at the same time non-infectious class of diseases, syphilis and gonorrhœa in the human subject are well known, and with some, perhaps, too familiar examples. They are both contagious in the extreme, yet neither of them is capable of being propagated, excepting through the medium of actual contact with the diseased part or its discharge. Rabies, or canine madness, offers another example. A man might be for any length of time in the same chamber with a mad dog without being affected; but let him be inoculated, by being bitten, or even in an indirect way with the saliva of the rabid animal, and, unless precaution be used, he will most probably in a short time become a victim to hydrophobia. It is curious that madness can only be propagated by the secretion of the animal's mouth. Inoculation with the blood, the fluid from which the secretion of the mouth is elaborated, will produce no effect. The present distemper of cattle, we may safely conclude, is neither infectious nor contagious, although the animal decidedly becomes diseased from atmospheric influence.

Peculiarity of Locality, Breed, Age, &c.—Locality seems to have some influence in rendering animals predisposed to the present distemper. The cattle kept on low bottom-land are decidedly more liable to become attacked than those on upland pasture. In all situations exposed much to the inclemency

of the weather are found more cattle affected with distemper than in those affording good shelter. The cattle belonging to the improved short-horn breed, provided they have not been reared too delicately, are less frequently attacked than the ordinary race. With respect to age, I have met with animals of all ages affected. It, however, is worthy of remark, that the very aged recover with the greatest difficulty, and seldom thrive after an attack. Milch cows seem to be extremely susceptible, especially those that were housed until late in the present season. Castrated males (or oxen) are not so frequently affected as heifers or cows. Store cattle are by no means so subject to the attack as others. The disease seems to attack principally those that have had the pustular affection of the mouth and feet with severity.

Symptoms.—It is a matter of great importance that the disease should be detected in its earliest stage, otherwise it is impossible to save the life of the animal, the lungs rapidly becoming so solidified in their structure as not to admit the reception of air, consequently producing asphyxia. It is, therefore, most unfortunate that the precursory symptoms of this terrible pest should be almost invariably so obscure as not to attract any notice until the animal is in such a state as generally to afford but slender hopes of a satisfactory result even to the most judicious treatment.

Another source of difficulty which presents itself is the extraordinary variety of symptoms evinced by different animals, although their age, condition, pasture, and every other circumstance under which they are placed may be exactly the same. In the one field, where many are affected about the same time, the various peculiarities by which their sufferings are detected will frequently confound the most experienced in the practical management of cattle. One beast may be seen separated from the rest of the herd, standing listlessly by the boundary fence; another will be found lying down in the centre of the field, with fevered countenance, occasionally turning an anxious look to her flank, and moaning with pain. A few may be seen moping about the field with straddling legs, arched backs, and heads stiffly bent downwards, taking an occasional and sudden bite at the herbage, but neglecting to masticate it; while others will evince no other symptom than an occasional wheezing cough, and a discontinuance of rumination. Indeed, to describe every variety of symptom would be an endless undertaking, even if it were possible to sum them all up from the annals of one's memory. The most invariable symptoms are dulness, quickened breathing, loss of appetite, and accelerated pulse; yet I have met with some hundreds of cases where, until twenty-four hours before

death, there was no acceleration of the breathing, although the animals had been ill for many days, and, when dissected, were found to have almost the entire structure of their lungs disorganized, and also a quantity of fluid in their chests.

There are some symptoms frequently present, but by no means always so. Of such are cough, shivering, horns and feet alternately hot and cold, grinding of the teeth, moaning from pain, and a great disinclination to move. The principal seat of disease being in the lungs leads many to suppose that a cough must necessarily accompany it. Such, however, is by no means the case.

Many animals go through all the different stages, dying within the variable space of twelve hours to three weeks, without ever being heard to cough; but in the majority of instances cough is present.

Never within the memory of man have cattle been found to cough so much as within the last twelve months. In many parts of Ireland, where large herds are kept, as many as eight out of every ten animals are affected with coughs.

All the graziers with whom I have had conversation on this subject appear not to attach any importance to their stock having coughs. They say, "every animal is coughing; we have some that have had coughs all the year round, yet they continue to feed well." This is certainly "bagging the question" to the fullest extent. In entertaining such doctrines they sadly injure themselves in a pecuniary point of view. A cough is generally consequent on an inflamed state of the mucous membrane lining the air-tubes and cells of the lungs. This membrane being the principal seat of the present distemper, is rendered highly predisposed to its attack by its being already in a diseased state. The original inflammation or irritation producing the cough requires only to be rendered a little more intense, in order to assume all the essential characters of the epizootic disease of the present season. Cattle affected with cough should never be purchased either for "grazing" or "store."

On the due performance of respiration depends the blood being properly prepared to fulfil its functions of furnishing materials for the growth and nutrition of the animal frame. The lungs being the organs by which the blood is prepared for this purpose, the derangement of them tends more to injure the animal's constitution than disease of almost any other part, and, therefore, diminishes in a direct ratio to the extent of disease, the tendency of the animal to accumulate "condition"—the grand and indeed almost the only desideratum in cattle fed for either the home markets or export. I wish it to be understood that I do not assert that no animals having a cough will fatten. I merely

state the fact, that they cannot do so to an equal extent with those having the function of their lungs in an unimpaired state.

A few years ago I had some conversation on this subject with Lord Althorp, to whose seat I went for the purpose of purchasing some of his stock to carry into France, with a view of improving the breed of cattle in that country; and, to do his lordship justice, I never met a man possessed of so just an opinion respecting the importance of the form of the chest and the soundness of the lungs in cattle as a necessary point to ensure fattening properties.

In the present distemper, sometimes, though but rarely, tumours form on the sides and neck. The bowels are generally costive, and the feces fetid.

Duration of the Disease.—From thirty-six hours to three weeks.

Treatment.—Various are the means that have been had recourse to for the treatment of this disease, and all with the same want of success. One person prescribes that the animal should be bled, and the abstracted blood given with salt in the form of a drench. Never, during the whole of my professional career, have I heard of any thing so absurd in the shape of a remedy. To say the best of it, it is a most filthy practice. The quantity of salt given, in combination with the blood, would have just the same effect if administered in any other vehicle (water for example), salt being a purgative. Another prescribes drenches of ginger and caraway seeds; with about as much effect might the animal be dosed with its own secretions. When the disease first made its appearance in this country, it yielded in the great majority of cases to bleeding largely from the jugular, blistering the sides, and giving a drench which I prescribed in a circular issued to the public by one of the agricultural societies, and which was composed of tartarized antimony, digitalis, and nitrate of potassa. Although successful for the first few months, the disease suddenly became so changed in its character, with respect to the influence of medicines on the system, that, in the present form of the malady, the exhibition of these medicines is a means not at all calculated for its cure or alleviation. Indeed, I should say, that it is much more calculated to kill than cure, in the present type of the malady.

The medicines which I now find to be the most efficacious are emetine, calomel, and opium. The other means are bleeding, blistering, and a due attention to the situation in which the animals are placed for treatment.

Locality.—When an animal is first observed to be affected with the distemper, it should be immediately brought into a well-ventilated, though by no means very cold, house or shed, in which should be placed sufficient straw to make a comfortable bed. The

practice of confining them in the usual manner is bad, at least under the present circumstances. By having their heads placed in the ordinary way, many of the affected animals are obliged to stand or lie in positions unfavourable to their ease—ruminants, like man, frequently varying their posture to relieve themselves from pain.

Blood-letting.—The abstraction of blood for the alleviation of disease, although a practice of the most remote antiquity, is by no means sufficiently well understood, with respect to the time when it is necessary to be had recourse to, and the quantity which ought to be abstracted. An animal labouring under an inflammatory attack can bear, without an impression being made on his system, to lose a much greater quantity of blood than one perfectly free from disease. A cow attacked with acute pleurisy could lose with impunity much more blood than would prove inevitably fatal to another animal of the same description in a state of perfect health. Neither will all diseases endow the frame with equal power of resisting the effects from loss of blood—some diminishing it to a great extent: thus diarrhœa renders a cow unable to lose half the quantity of blood that she might with impunity, were she free from all disease. It is fortunate, however, that just in proportion as it is necessary to bleed, in order to subdue inflammation, so, in an equal ratio, is the degree of power possessed by the animal's constitution to contend against the effects of the loss of blood increased. For instance, in inflammation of the lungs, it is imperatively required that a large quantity of blood should be abstracted, while in diarrhœa the animal should not lose any of the vital fluid. Where bleeding is necessary, the jugular vein should be freely opened, the animal's head being held high, and the stream of blood permitted to flow until the pulse wavers, or the animal becomes faint. As to prescribing the loss of a certain number of quarts, it is an unpardonable absurdity into which those who have written on the subject have almost invariably lapsed. The manner in which the animal bears the loss, as the vital stream flows from his vein, is the only true indication of the exact extent to which the depletion should be carried. If the intensity of the disease requires the abstraction of a large quantity of blood, the animal will bear the loss without danger; but if it do not, the symptoms of distress quickly setting in after the vein is opened, plainly indicate that it is time to desist.

In the great majority of cases, bleeding is necessary for the treatment of the present distemper: but all cases will not bear it well alike. Where the mucous membrane of the bronchia is the part affected without any other complication, so much blood cannot be abstracted as where there is also pleurisy. It is fortunate, however, that the symptoms evinced by the animal, as the blood flows,

plainly indicate when to stop, and when to let the stream flow on. Small and often-repeated bleedings only injure: they undermine the vital powers without producing a commensurate effect.

Repetition of Blood-letting. — When an amelioration of the symptoms does not take place after the first twenty-four hours, blood should be again abstracted; and on the same principle, with respect to quantity, as guided in the first blood-letting.

Counter-irritation.—Blistering the sides is decidedly in every case beneficial. By establishing an inflammatory action on the external surface, and that, too, so near the seat of disease, the intensity of the original inflammation becomes diminished. The late John Hunter stated, that "no two inflammations could exist in the system at the same time." This is the principle on which he described the salutary effects of "counter-irritation." To a certain extent he was right, but only to a certain extent. Artificial inflammation set up in one place has, certainly, a tendency to diminish inflammatory action elsewhere; but cases present themselves daily, where acute inflammation is found to exist in different organs and structures at the same time, although even the functional sympathy between them seems to be but slight. The ordinary horse-blister is ineffectual for neat cattle, in consequence of the great thickness of their skins. The following formula is excellent:—

Bin-iodide of Mercury.....	four drachms
Croton Oil.....	eighty drops
Prepared Lard.....	four ounces

Blend well into an ointment.

Previous to applying the blister the sides should be divested of hair, by means of the clipping scissors or a razor. The ointment should then be well rubbed in for at least fifteen minutes.

State of the Bowels.—Generally, there exists a great degree of costiveness. The mucous membrane of the fourth stomach and intestines cease to throw out their usual secretions; the fæces accumulate in the rectum, are voided in small, hard masses, coated with slime, and of a most offensive odour. From rumination being checked, fermentation, frequently after the first two or three days, takes place in the paunch, which becomes distended with the gases elemented from the accumulated vegetable matter during the fermentative process. Eructation is frequent in such cases. Many have thought, from the appearances often presented by the stomachs and intestines after death, that in these organs rested the principal seat of disease. The indigestion is merely an effect, and not a cause of the disease. In some few instances there is quite a contrary state of the digestive organs, the disease being accompanied by severe dysentery. With respect to the costive state of the bowels, where calomel is used it is in-

judicious to exhibit purgatives. Calomel is a medicine of which the only effect to be dreaded in the present disease is superpurgation and inflammation of the intestines; to avoid which, it is desirable to exhibit the calomel in combination with opium. The reason why I prefer emetine to tartar emetic is, that it has all the sedative and nauseating effects of the latter medicine, without having nearly so great a tendency to produce inflammation of the bowels. Much nicety is required in the application of these medicines, both in the quantities of each dose, and the repetition of their administration. I do not think that persons entirely unacquainted with medical matters should be entrusted with the treatment. I should, therefore, recommend the assistance of a neighbouring veterinary surgeon, or even a human practitioner, if the latter would condescend to give his advice on the subject. The practice of entrusting the treatment of cattle, when labouring under the effects of disease, to servants, is highly reprehensible. The masters of such persons vaunt the great experience of this class of men—the whole of which experience amounts to their being frequently with the cattle. On the same principle, as well might a valet turn physician to his master, or a footman accoucheur to his mistress.

Mode of giving Medicine.—In giving medicine to cattle, under no circumstance is it judicious to administer it in the form of pills or balls. It should invariably be given in solution. Veterinary surgeons who prescribe "balls" for cattle, I assert, in the most unqualified manner, are either lamentably ignorant of that department of their profession which relates to cattle, or are dishonest to their employers, prescribing medicine in the form of balls, that they may, with some seeming degree of justice, charge the usual price of a horse-ball for what, in a state requisite to be given in the form of solution, would not be thought of sufficient value for more than a quarter of the sum. It is easy to make assertions. I shall, however, make none, without also giving sound evidence of their veracity.

The reason why balls are an improper form in which to give medicines to cattle, depends on the peculiar arrangement and form of the stomachs of this class of animals. While the horse has but one stomach, and that of small dimensions, all animals that ruminate have no less than four. When the horse has once swallowed any food, it passes immediately on into the intestines, being sufficiently acted upon by the juices of the stomach. It is impossible in the horse for any food once swallowed to again regain the mouth, there being a valvular arrangement at the entrance into the stomach, which only admits of the passage of the food into it, but effectually prevents its returning, excepting in some

very extraordinary cases of disease or injury. In ruminants, the process of digesting the food is very different from that in the horse. In the cow, when the food is gathered by the mouth and swallowed, it goes into the paunch. The animal having eaten enough, allows the food to remain a sufficient length of time in the paunch to undergo a certain change like maceration, by the heat and juice of this cavity; and then the food passes from the paunch into another cavity called the second stomach.

From the second stomach the food is forced up in small pellets back to the mouth, where it undergoes a second chewing (called "rumination" or "chewing the cud"). In this second chewing, each pellet is ground into a soft pultaceous mass, and mixed with a large quantity of saliva. The animal then swallows the morsel for a second time: but, instead of returning to the cavity or stomach to which it went on the first swallowing, it now passes by its entrance, without getting admission, and on leaving the gullet, goes immediately into a third stomach. This third stomach is so peculiarly formed, that it will not admit the entrance of any solid food that has not been previously ground down to extremely small particles by the process of the second mastication. It has within it a number of membraneous folds, resembling in their arrangement the leaves of a book. The leaves of the third stomach being rough on their surface, and endowed with a rubbing motion between each other, the food in passing between their surfaces undergoes a still further rubbing down. Not until it has passed through this stomach does it enter the membraneous cavity or sac which corresponds with the horse's single stomach.

The first and second stomach of the ox may be regarded merely as receptacles for the collected food to macerate in previous to rumination, or its being a second time masticated. Every thing swallowed for the first time, with the exception of liquids or semi-liquids, goes into these stomachs; and even liquids, when taken in large quantities and with rapidity, go there also. However, liquids, when poured down the animal's throat by the hand of man, if permitted to descend in very small quantities at each swallow, and slowly, generally pass directly into the third stomach, and thence, through the fourth one, into the intestines. But even when the fluid does drop into the first and second stomach, it can, from its liquid nature, slowly pass into the third one. Solid matter cannot do so. Previous to passing from the paunch into the third stomach, the solid food must be regurgitated, and masticated a second time, in order to render its particles fine enough for admission into the manyplus, whence it goes on being re-swallowed. A consideration of these anatomical and physiological facts leads us to select the following considerations

as forming an insurmountable objection against administering medicine to cattle in the form of balls.

First—No solid matter can pass into the third stomach without being chewed a second time; therefore medicine in the form of balls, on being given, drops into the paunch.

Secondly—No ruminant will regurgitate any disagreeable tasted matter, such as medicine, from the paunch to chew it a second time, and thus prepare it for admission into the third stomach, through which all medicine must pass previously to gaining admission into the fourth stomach, which is generally admitted to be the only one of the four that is at all subject to the salutary action of medicine.

Thirdly—Solution of any solid substance, a medicine ball for example, is so very slow in the paunch of the ox, especially if the animal is labouring under an inflammatory attack, that the disease too frequently gains an irrecoverable advantage over the practitioner long before the medicine could be dissolved and take its effect, even if the coats of the paunch were susceptible of being acted upon by the contact of medicine sufficiently to be of any service.

It must be admitted that purgative medicine, when given in the form of balls to cattle, very frequently produces an effect. But, from the facts which I have stated, it must be also admitted that their effect is uncertain, and invariably exceedingly slow. In order to produce their effect they must be first dissolved, which always takes a considerable time to accomplish. Mixed with the liquid contents of the paunch, a portion of the medicine may permeate into the third and fourth stomachs. But the relative quantity of that portion with the quantity given in the dose depends on accidental circumstances, and is, therefore, invariably uncertain. Independent of these objections, there is also another, and one too of paramount importance, *i. e.* the entire contents of the paunch being impregnated with the medicine, the animal will not ruminate from the nauseous taste of the pellet which would be regurgitated, the consequence of which is, that fermentation takes place in the paunch from the accumulated vegetable matter remaining so long in that cavity, producing a series of derangements in the digestive organs which far more than counterbalance any little good effect that might otherwise possibly arise from the action of the medicine, if from chance it happened to make some little impression on the fourth stomach and intestines.

In verification of these statements, I may mention that I have frequently found several balls in the paunch or first stomach of animals, in which the present distemper terminated

fatally. One case in particular was most remarkable. In the paunch of a three years' old cow, I found nine balls undissolved, with the paper in which they were originally wrapped still perfect. There were also the wrapping papers of three others. This animal had been ill for eighteen days previous to her death. Two balls per diem had been given for the first nine days; but on her continuing to get worse, the owner left her to nature. Now, whether it was nature killed the cow, or the intense inflammation found to exist in her paunch, and which was undoubtedly caused by the irritating effects of its fermented contents, and the balls that had been dissolved, I shall not pretend to say; let the facts speak for themselves.

Mode of giving Medicine.—Having given what I apprehend will be deemed sufficient reasons why a liquid form is the best for administering medicine to ruminants, it may be remarked that it is essential that the drench should be given in a particular manner, in order to ensure its desired action. If the animal is roughly handled, frightened, or the medicine poured quickly down the throat, the chances are greatly against its producing the desired effect. Fluids forced down in a hurried manner, on being swallowed generally fall into the paunch, instead of passing on into the third and fourth stomachs. The animal should be handled as gently as is possibly consistent with the safety of those about her and the effectual exhibition of the draught. The head being moderately elevated, just high enough to prevent the fluid from falling out of the mouth, and no higher, the drench should be poured in small and often-repeated quantities into it, allowing sufficient breathing time between each swallow. The draught, instead of being dashed from a porrenger, or other large-mouthed vessel, into the throat, should be gently poured into the mouth. Thin gruel is an excellent solvent for the medicine.

Diet.—For the first two days animals need not be fed, unless they evince evident appetite; but on and after the third day they should have a small quantity of tolerably thick gruel, three or four times per diem. When the appetite returns, mashes and green food are the most desirable. Cattle, on recovering, frequently have an extraordinary great appetite. They must not, however, be over-fed. For the first week they should be fed sparingly. Over-feeding frequently produces relapse.

Secondary Consequences.—Few cattle that have had a very severe attack of the present distemper, thrive equally as well as previous to their becoming affected. There generally remains such an altered state of some portion of the lungs, as interferes considerably with their function of respiration, the consequence of which is, that the blood is not sufficiently acted on by the

air in its passage through the lungs, and the animals, instead of throwing up flesh, continue thin, harsh in their coat, cough frequently, and barely live, without offering the slightest prospect of remuneration for their keep. Many, on recovering, thrive amazingly, although an examination of their lungs, by placing the ear over the sides, indicates that some parts of these organs are completely impervious to air, and are, consequently, useless for the purpose for which nature originally intended them. Were I a cattle-feeder, I should certainly object to retain for store-stock any that did not thrive immediately on recovery.

Relapse.—Not unfrequently the animals make a temporary rally, thrive for a short time, get ill again, decline rapidly in flesh, heave laboriously at the flanks, and die, having the entire of their lungs in a most dreadful state of disease. In cases of relapse bleeding must not be had recourse to, excepting where the inflammatory attack is most markedly acute. Sometimes the animals recover the acute attack, but lapse into a state of pulmonary consumption, for which there is no cure. I should advise no person to retain on their farms any cattle having had a relapse. In ninety-nine cases out of a hundred they never remunerate the grazier for their keep.

It becomes a question, in a pecuniary point of view, what course of procedure is the most desirable for the grazier to follow? I should say, when cattle in good condition shew the least symptoms of being attacked, dispose of them immediately, if possible, for they are certain to lose flesh under treatment, unless under peculiarly favourable and very rare circumstances. Those that have had the disease severely, sell them as soon as they are at all fit for market; and under no circumstance, at any of the approaching fairs, purchase from herds of cattle among which can be detected the existence of hoose or cough.

ON THE PRESENT EPIDEMIC AMONG CATTLE.

By Mr. J. M. Hales, *Oswestry.*

As I know that you take a deep interest in all that relates to the agriculturist and the veterinary surgeon, I am induced to address you on the subject of that fatal malady, which, having made such havock among the cattle in some parts of Cheshire, is now penetrating into Shropshire.

On the 25th of August I was requested by Sir Rowland Hill to go to Ightfield, about twenty-five miles from my residence, to

examine some cows belonging to two of his tenants. Mr. Bird, veterinary surgeon at Wem, accompanied me.

One of the farmers had lost eight or nine milking cows, and had eight or nine more that were ill; and so completely had he made up his mind that he should lose them all, that on my expressing my regret that I had not had the opportunity of examining any of those that were gone, he requested me to select one out of the remainder, and which should be immediately destroyed. The one that appeared to be the worst was immediately killed.

There is a very good description of the disease in THE VETERINARIAN of the last month, by Mr. John Barlow: but the cattle on which he attended have generally lived longer than was stated by him after the commencement of the attack, the period of illness being usually twelve or even fourteen days. The first symptom was described to me to be cough.

From what I have seen and heard of the disease, I am much inclined to believe that cough is, generally speaking, the earliest symptom. It may not be violent; it may proceed but a little way beyond the *huskiness* which almost every cow occasionally has: there it is, and weeks—possibly months—pass before it is observed, or becomes seriously thought of. Several of the farmers with whom I had the opportunity of conversing, told me that nearly all their cattle had the husk during the whole of the winter, and, indeed, they thought that they had been husking more or less ever since they had the distemper of the last year. Is the husk insidiously paving the way for the development of this malady, or can it be traced to any connexion with the late epidemic? The grandfather of an apprentice of mine has lost upwards of twenty cows by this complaint, and he says that the disease in all his father's cattle commenced with the husk. I shall wait with some impatience for the opinion of your correspondents on this point, for a most important one it is. Let us leave for awhile our disputes, unpleasant and injurious, and devote our opportunities and our talents to the noble objects of our profession—the welfare of the agriculturist, the advancement of science, and the rescuing of the quadruped from the disease and suffering to which he is so much exposed.

I was speaking of the first or most prevalent symptom of this disease,—cough. To this succeeds an unthrifty appearance and loss of milk. Two or three days afterwards the breathing becomes accelerated, and the pulse rises to 70 or even to 80 beats in a minute. The cough is soon attended by evident pain and difficulty. The breathing gets worse and worse—the appetite diminishes—and ultimately the animal becomes exhausted, and dies.

We may, perhaps, obtain considerable information from careful observation of the appearances after death. Whatever may be the case with regard to the cure of this disease, I do conceive that I have learned something from the examination of the animal that was so promptly given up by the owner.

The disease was entirely confined to the chest. The left lobe of the lung was immensely enlarged, and when cut into had an appearance similar to what is called marled beef, and about the same consistence. This appearance was produced by effusion of lymph within the substance of the lung, and, when a portion was pressed in the hand, a very considerable quantity of serum exuded. The lung had not that great hardness and solidity of which Mr. Barlow speaks; but, as the farmer said, the cow would have lived two or three days longer, and this might have increased the condensation of the lungs.

The right lobe of the lung shewed little if any disease, but appeared as if it were compressed.

There was effusion in the pericardium, and considerable adhesions of the pleura.

The bowels and the kidneys performed their functions during the whole course of the complaint.

The post-mortem examination being completed, and the whole history of the different cases given, so far as they could be obtained, then came the important but difficult duty of advice as to the future management of those that were already diseased, or might soon become so.

I advised that all that had the husk should at once be put under treatment; that setons should be extensively inserted in the chest, and fever medicine, consisting of pulv. digital. et antim. tart., should be given to one portion of the cattle; the calomel and opium, as recommended by Mr. Barlow, to another set, and the iodide of potassium in doses of half a drachm twice in the day to the rest, and, with regard to a portion or all of them, combinations of these with any other medicine that circumstances might indicate.

I urged that those who were affected should be kept perfectly at rest in a cowhouse well ventilated, and that setons should be made use of in every case that indicated disease or danger.

I have had the satisfaction of hearing that, although several fresh cases occurred, not a single cow has been lost since the one that was killed for my inspection, and that most of those which I saw may be considered as recovering. If any thing of importance should occur, I shall feel it my duty to communicate it to you.

ON THE PRESENT EPIDEMIC AMONG CATTLE.

By Mr. YOUATT.

HAVING, from the sad prevalence of epidemic disease during this year, had considerably more cattle-practice than has fallen to my lot in any preceding one, I feel myself bound to add my mite to the interesting records which this present number of THE VETERINARIAN contains.

It seems to be originally an affection of the pleural lining of the chest or covering of the lungs, and most frequently of the latter. There is usually, but not always, cough; for many a day and many a week has occasionally passed before the true character of the disease is developed. Our dairy cattle are often subject to hoose or cough, and this continues a long time before the true character of the disease is suspected. Of the primary cause we know little or nothing; and, so far as we have had opportunity of observing, the disease is not essentially either contagious or infectious. It depends on some unknown atmospheric agency. That agency is, perhaps, more developed in some situations than in others. It is more frequent and more fatal in low and marshy land than in upland ground, provided that upland pasture is protected. Cold or damp appear to be the principal agents in developing it; and, whether or not because I reside in the neighbourhood of so many milch cows, I have fancied that they are more subject to this affection than any other species of cattle.

The present epidemic does not appear to have connexion with the disease that prevailed two years ago, except that the prior disease seems to have left them in a somewhat debilitated state; or rather, I should say, that the state of debility which subjected them to the first attack is still at work under a different form.

Cough is the usual, but not invariable, concomitant of the early stages of this disease. It is heard for many a day or many a week before the true character of the disease is developed; but in a few instances it is not observed until the animal is within four-and-twenty hours of its death. There is generally an unwillingness to move—a groaning or expression of pain—a shrinking when the sides are pressed upon—slight spasms stealing over the sides—and a decided roaring or rushing noise when the ear is applied to the sides, occasionally audible at a variable distance from the animal.

These symptoms are sometimes rapid in their progress; at other times they are exceedingly slow. The average time between the evident presence of the disease of the animal is from

seven to fourteen days; but, as I have just stated, there are, sometimes, not four-and-twenty hours between the attack of the malady and the loss of the patient. These, however, are exceptions to the general rule. Generally speaking, there is warning enough. *There is cough—a sore cough—tenderness of the sides* —diminution of the quantity of milk; occasionally altered colour, taste, and smell of that milk—a peculiar expression of pain, *a kind of grunt or groan accompanying every act of breathing*— the cough becoming daily more painful, considerable debility stealing on, and rapid emaciation.

The appearances after death do not always vary to any considerable extent. Often, the abdominal cavity presents almost perfect health, and if any lesion is found the character of it is uncertain; but the contents of the chest exhibit usually one mass of disease, strangely varying in different subjects; in some, limiting its action to the membranes; in others, involving the whole pulmonary apparatus in one disorganized mass.

CASES OF ANASARCA:

SELECTED FROM THE RECORDS OF THE CLINICAL SCHOOL AT ALFORT.

The first animal whose case is selected is an entire draught horse, of a chestnut colour, and eleven or twelve years old.

He possessed unusual energy and strength. On one day, when the temperature was exceedingly cold, his driver perceived that, on his return to the stable, his legs were a little swelled. On the following morning the man observed with astonishment that his neck, the inferior part of his thorax, his belly, his testicles, and his thighs, were enormously enlarged, and impeded the motion of his limbs, and also his breathing.

M. Bouley was consulted, and he advised that the animal should be brought to the hospital of the school. On the 13th of January, 1840, he was conveyed, by means of the railroad, from Ablon to Alfort, a distance of three leagues.

On his arrival he was entrusted to the care of the pupil Marcus*. A very considerable swelling extended from the lower part

* It is the custom, and a very excellent one, at the French school, to place every animal under the *surveillance* of a pupil, who reports to the clinical professor as to the state of the patient, and acts in conformity with the commands of the professor.

of the head down the cheek. The inferior part of the thorax, the breast, the belly, the scrotum, and the limbs, were all swollen, and in all of them the limit of the enlargement was marked by a prominent horizontal line. There was little heat or pain on the surface of the engorged parts, and, the finger being pressed upon them, the indentation remained. The conjunctiva was infiltered with a yellowish red tinge. The whole surface of the pituitary membrane which the swelling of the nostrils permitted to be seen formed one petechial surface, covered with bloody mucus that adhered to the alæ of the nose. The pulse was small and quick, and the breathing of the heart strong and accelerated. The movements of the flanks were deep and trembling, and the respiration was loud from the contraction of the nostrils and the engorgement of the mucous membrane. Neither auscultation nor percussion yielded any positive indication. The kidneys did not give way to pressure. The coat continued smooth and shining, and the animal searched for food.

Our prognosis was of a serious character. We were fearful of suffocation if the swelling about the head increased; and, on the other hand, we dreaded those gangrenous affections which are sometimes connected with obstruction of the nasal cavities.

Treatment.—Deep scarifications of the enlarged parts, and the application of the actual cautery. Injection of a concentrated solution of alum up the nostrils. The quantity of food diminished.

14*th.*—No amendment. The engorgement of the head increased and the breathing more difficult, and to be heard at a considerable distance. A thread was passed through the edges of the nostrils on either side; and the alæ of the nose were thus elevated and kept open by these strings being tied across it. The astringent injections were more frequently applied; drinks of strongly scented wine were administered; and frictions of tincture of cantharides were applied near and over the different scarifications. Bandages, also, were lightly applied round the limbs. The animal has preserved his appetite. The quantity of food was a little increased.

15*th.*—Suppuration appears from the different scarifications. A yellow discharge, and considerably limpid, comes from the nostrils. The animal eats with appetite. The prognosis is more favourable.

16*th.*—The swelling of the face has diminished, and the respiration is more free. The scarifications of the chest and belly suppurate well. They are dressed with equal parts of blister ointment and basilicon. The injections into the nostrils were

continued, as also the aromatic drinks, and the animal returned to his full feed.

17*th.*—Some new punctures were made into the swellings on the belly, but the cauterization of them was neglected. The respiration is natural and free. The suppuration is every where entirely established. A physic ball was given, consisting of three drachms of aloes, and the food diminished in quantity.

18*th.*—The animal is dispirited, uneasy, continually lying down and getting up again almost immediately, and frequently looking at his flanks. The pulse is strong and quick. The conjunctiva is of a mingled red and yellow hue. He can scarcely be turned in his stall. These effects were attributed to the purgative. Twelve drachms of sulphate of soda were administered and frequent injections thrown up. The application to the scarifications and the wounds of the nostrils were continued.

19*th.*—The dulness still remains—the eyelids are tumefied and heavy. The animal purges a little. Treatment the same.

20*th.*—The purging has ceased. The horse is recovering his spirits and appetite, but the expired air is exceedingly offensive.

22*d.*—The general state of the animal is satisfactory. The appetite is good. The skin of the right flank and the belly is come off more than a foot in length, and as large as the hand. It is entirely gangrenous, and diffuses a most infectious odour. The subcutaneous cellular tissue of the part is covered with large rose-coloured granulations, between which there ramify subcutaneous venous vessels, entirely denuded, and completely obstructed by black clots of blood that have attained considerable consistence. This loosened portion of integument was removed, and the sore was dressed with a stimulating tincture.

M. Bouley observed that, in the right flank and under the belly, the last scarifications that were effected were not cauterized. Could the sphacelus of the skin, and to so great an extent, be attributed to this omission?

Two pints of weak tincture of bark were ordered to be given every morning and night.

From the 23d to the 28th there was nothing remarkable, except that the discharge from the wounds was most abundant. Continue treatment.

28*th.*—The animal is weak. All the mucous membranes were remarkably pale, and a small and dry cough was frequently heard. The appetite, however, was exceedingly good. In despite of the cough, which some would have regarded as the indicator of metastatic abscess in the lungs, our prognosis was, on the whole, favourable, and in fact, a few days only passed without the march toward convalescence becoming more and more

confirmed. The wounds rapidly healed—his appetite was excellent—and on the 9th of February, twenty-seven days after his admission to the hospital, the horse was again put to his former work. There was still a sore in the region of the flank as large as a hand, but the owner did not regard that. The sore gradually disappeared, and the horse has continued his work to the present time.

Recueil de Med. Vet.

THE ROYAL AND CENTRAL SOCIETY OF AGRICULTURE IN FRANCE:

A REPORT OF THE DISTRIBUTION OF PRIZES BY MESSRS. GIRARD, YVART, BARTHÉLEMY, AND HUZARD.

1. M. Jacobs, principal veterinary surgeon in the 11th Dragoons, presented a memoir respecting an inflammatory disease that prevailed in the commencement of 1841, in the 11th regiment of Dragoons, and which, in certain cases, assumed a resemblance to glanders and acute farcy. This communication throws much light on the disastrous effects of the alternations of privation and abundance, and good and bad usage, to which the youngsters are so frequently exposed as they pass through the hands of different dealers until the kind of service in which they are to be employed is determined.

2. M. Dehan, of Luneville, has contributed some useful observations on gastro-enteritis, complicated with pneumonia; and others on gastritis, complicated with hepatitis and meningitis. Although these diseases are frequent, the means of cure, and especially of the last, are difficult.

3 and 4. The next in order of merit were MM. Lecoq and Blavette. Scarcely a year had ever passed without some valuable observations being brought before the Society by these zealous veterinarians. M. Lecoq now presented a series of cases, among which were the following:—a case of inversion of the uterus in a cow followed by perforation of that organ, and yet a cure being effected;—an accidental but complete section of the flexor tendons in the left fore foot, in a colt, three years old, and a perfect cure being effected by the bandages introduced and recommended by Bourgelat, but differing in the manner in which they were secured to the base of the foot;—also a fistula of the anus in a horse, cured by the insertion of a leaden sound into the anus, passing through, and, by degrees, obliterating the fissure. This method, borrowed from the practice of the human surgeon,

constitutes one proof out of many of the assistance which one science may render to another.

M. Blavette sent a series of observations on the protrusion and inversion of the rectum in the horse. In one case the uterus as well as the rectum was inverted, and presented its internal mucous surface covered with fragments of the placenta that were not yet detached. With little hope of cure M. Blavette, however, attempted the reduction of both. He thoroughly cleansed the mucous surfaces, and deeply incised the parts that were much engorged, and even ventured to cut away several portions that were otherwise too much disorganized to admit of the possibility of healing.

5. M. Papin, veterinary surgeon at the establishment of Lamirault, presented a work entitled, "The Cavalry Shoeing Smith's Guide." Without being especially designed for the agriculturist, it contains much information highly useful to him. It likewise embodies all that is connected with the art of shoeing which modern works on farriery contain.

6. M. Olivier exhibited a new kind of hobble to confine the horse under any serious operation. He accompanied this by two cases of articular rheumatism in the horse, a disease which is often complicated with serious affections of very important organs.

7. M. Rewel, first veterinary surgeon to the 3d Hussars, contributed a valuable paper on acute enteritis in the horse, and an account of an operation on an enormous gangrenous tumour in the chest.

8. M. Levigney, veterinary surgeon at Cambe, furnished an account of an operation for ventral hernia on a mare. She fell on a stake—the muscles of the fibrous tunic of the belly were torn, and a hernia as large as a man's head was the result. The hernia was reduced, the wound was healed; and, in process of time, the mare, that had been with the horse a little before the accident, produced a healthy foal.

A second memoir was presented by the same author on an aphthous disease in horned cattle, which prevailed in many parts of France, and particularly in the Bessin Normandy, in 1839 and 1840. It is well described in its symptoms, its progress, its apparent anomalies, and its fearful results. He treats of the question of contagion; and his opinion is, that, in many cases its course may be clearly traced, while in others it appears to have no influence of this kind.

An analogous disease was developed in the sheep, the goat, and even in the hog. These coincidences in the different species plainly demonstrate the power which the influence of the climate has over the system. The persons who have the care of

the cows have often excoriations on the hands resembling those on the teats of cows; and some few who are not thus vaccinated, nevertheless have the true cow-pox vesicle developed upon them. In others that were vaccinated, there was a slight redness round the part, and the appetite was impaired to a greater or less degree.

In a country like this, in which the milk, formed into butter, constitutes the chief revenue of the farmer, a disease which attacks the teats, and diminishes the secretion of milk, and in some animals dries it up altogether, excites much cause for fear. Nevertheless, as has been remarked in other countries, if the milk does diminish in quantity in the animals that continue to yield it—and they are the greater number—it is proportionably more abundant in butyrous matter. The consumption which has continued to be made both of the milk and the butter not being followed by any unpleasant circumstance, the fear that prevailed has subsided in these countries.

9. M. Reynal, V.S. in the First Regiment of Lancers, has contributed two interesting papers; the first on an extraordinary hypertrophy of the internal lateral cartilage of the foot—and the other on acute and chronic disease of the ovary in a mare.

M. Reynel accompanies these by another and yet more valuable paper entitled "*One Word on the Causes of the Mortality of the Cavalry Horses in France.*"

The mortality among the cavalry horses in France is very great, compared with that which takes place in horses employed in other services, and even in those that occur in other European cavalry regiments. The remount of the cavalry is consequently so dear, that the legislative chambers have been roused to a consideration of the subject, and the minister of war is actively employed in endeavouring to discover the causes of this mortality. It has also been remarked that—simple accidents being excepted—the loss is far more considerable in peace than in war. Many veterinary surgeons have lately entered their protest against this strange mortality.

The cause of it among the French horses is so plainly developed, that the new modelling or new construction of a great number of military stables has been decided upon; but, when the time arrives for its being carried into execution, some persons will be at too great a distance—others too superficial in their notions of that which should be done—and others imagining that the mortality depends exclusively on the construction of the stables. Many veterinary medical men have pointed out other causes of the mortality among the troops. They have the best opportunity, as well as the strongest interest, in developing the true cause of the evil. They do well in rebuilding the old garri-

sons, in elevating them, in enlarging them, and in giving them air; but they do not attack the cause of the evil, at least not the principal one. The mortality will continue in despite of the well built stables, and the most unremitting care, and the efforts of the most skilful veterinary surgeons, except other causes are taken into consideration, and their necessary results, and the enormous expense that is frequently incurred.

The cause of the mortality in cavalry horses may be chiefly traced to the following circumstances:—

The purchase, in the depôts, of horses too young, and which are sent to the regiment before they have obtained their proper growth—the first instruction, which ought to be confided to experienced men—the lessons of the recruits, too often repeated—the little care which the French cavalry take of their horses—the absurd classification of the horses and the soldiers—and, lastly, the bad food which is given to them in a great many garrisons.

10. This memoir has reference to "the influence which the veterinary art exerts on the prosperity of agriculture."

After a few observations on the equity of conceding to every profession the merit which belongs to it, and observing that the services which the veterinary surgeon renders to the agriculturist are highly valuable, the author takes a rapid review of agriculture and the veterinary art in the time of the Gauls, the Romans, and the present French. He observes it, with few exceptions, submitting to a nearly uniform system, based, not on a knowledge of those natural laws which are most available, but on the usages that render the culture of the land most easily manageable. He sees the country, with regard to the cultivation and the care of cattle, abandoned to many serious wants at the present moment, and almost regardless with respect to the future. Hence, to a great degree, the frequent epizootics which decimate the domestic animals in so fearful a manner.

Passing to a new era—the institution of veterinary schools—he shews the professors of these schools approaching nearly to the *savans* of the day—deriving instruction from them—applying the knowledge which they have acquired first to the medical treatment of these animals, and then to their general improvement and worth; for it is impossible not to pass rapidly from the one to the other, and particularly in veterinary medicine. It exhibits these professors, forced at once thus to study the wants of agriculture, and yielding themselves to it with pleasure and distributing among other classes of society, and particularly among the *savans*, new notions of this science, so neglected, yet presenting so many problems of the highest importance to resolve.

Their influence is not bounded here. They inculcate among their pupils the notions which their previous studies had suggested to themselves—they enable them to perceive all that is erroneous in certain routines, and in certain agricultural operations—they place them on their guard against prejudices imbibed in the country; and their pupils, mingling with the agricultural population, in daily contact with them in the treatment of their cattle, are commencing on all these points the foundation of much that is good.

The culture of artificial meadows, in furnishing abundant and healthy food for the cattle, has bestowed the means of rapid improvement among them, and of preserving them, in a great measure at least, from the fearful maladies by which they were decimated. You know the rest: not only are the cattle, generally speaking, more healthy, but their numbers and their size are increased. Every agricultural production is likewise increased and improved, and the prosperity and happiness of the community at large.

At the present period we more particularly experience the benefits of veterinary medicine. The epizootics which formerly ravaged our fields, and bade defiance to our utmost skill, have their power to a great degree arrested when they are brought into contact with animals that are better fed and better housed.

11. The last memoir is entitled "Anatomical and Pathological Researches on Glanders.

The author of this Essay has instituted a somewhat new and interesting and valuable method of detecting the existence and progress of glanders; and he tells us that it is only by examining with the eye, and having the scalpel in hand, that we can discover, to effectual purpose, the vessels of the diseased tissues, and thoroughly acquaint ourselves with the progress of their disorganization.

The following, according to him, is the usual order of the phenomena which accompany the external symptoms of glanders.

Tumefaction of the diseased submucous tissue, but in many respects different from that of inflammation.

Indurated longitudinal lines at the middle of the tumefaction. On being opened, these indurated lines permit us to ascertain that they are the lymphatic vessels already subject to these alterations.

The lymph accumulates and distends them to a very great degree.

In some points, the lymph is changed. It is partly coagulated, and it has produced a veritable precipitation of matter

which is no longer liquid, and yet no longer solid. This matter is formed of a kind of concretion of a greyish white colour—less deep than the fluid itself, and less consistent.

The lymph, at first abundant, afterwards diminishes around the concretions.

The walls of the vessels themselves are thickened at nearly the same time that the concretions are formed. The valves likewise share in the thickening.

Little by little the quantity of lymph diminishes in the lymphatic vessels, perhaps from the difficulty of circulation which is now experienced.

The sides of the vessels insensibly approach each other. They come in contact with each other. An adhesive process establishes itself, which, when it is completed, leaves no trace of the existence of the vessels.

The coagulum has then all the characters of an encysted tumour.

The coagulum, gradually dissolved by the serosity which is alternately exhaled and absorbed in the cyst, concludes by disappearing in its turn, and the walls of the cyst adhere to each other.

Such is the most common march of disorganization, when arrived at this point.

Most frequently one of the points of the cyst gives way. There is a softening and deliquescence of the coagulum, perforation of the surface of the mucous membrane, and the formation of ulcers or chancres.

The veins undergo lesions a little more resembling those of the lymphatics.

The arteries sometimes undergo an analogous change; but this case is rare, and is only seen when the malady has pursued its course slowly. It is still more rare for complete ulceration of the walls of the artery to take place.

The author then proceeds to the alterations in the fluids. He acknowledges that his researches on this point have not been very extensive. He hopes, ere long, to complete his examination.

In the different portions of the mucous membrane of the nose, he finds the same kind of alteration; and, finally, he is disposed to believe that pulmonary tubercular disease—which is the result of the affection of glanders—is different in its formation from tubercular phthisis.

Memoirs of the Royal and Central Society of Agriculture, 1842.

THE VETERINARIAN, OCTOBER 1, 1842.

Ne quid falsi dicere audeat, ne quid veri non audeat.—Cicero.

It is not often that, at the commencement of a month, we have addressed our readers with greater pleasure than we do at present. We have never been honoured by a greater number of new and valued friends—not more prized, however, than the old ones, and we have rarely or never had more interesting matter to set before our readers.

The letter of Mr. Price acquires in our estimation high value from the time and the feeling with which it was written. It came, literally speaking, from his death-bed. "I fear that my say is so long that it will not gain admission; but I shall, nevertheless, say a little more, for it is a long time since I wrote to you, and it will probably be a long time before I do so again." A score lines more were not written ere—in the midst of a sentence—he pauses: "and I have tired myself, and, I fear, your patience, and must defer to a future period some other remarks that I wish to make." Had he lived, he would have been more justly estimated in his profession; but those who knew him justly appreciate his character and talent. His remarks on drenches and setons are much to the purpose.

The swallowing of a piece of sponge by a horse, and its remaining in the intestinal canal an unknown period—certainly more than a week—and then being voided, without having, in the slightest degree, undergone the process of digestion, or injured the animal, is a circumstance of rare occurrence. It happened once before, in the practice of Mr. Rickwood. Have any of our readers met with a similar case?

The corroboration of the good effect of mercury in distemper, or epidemic disease, as communicated by Mr. Acherley to Mr. Percivall, is valuable. We are much deceived if there will not be considerable alteration in the treatment of these cases, and many others. It was a perfectly erroneous opinion which Pro-

fessor Coleman embibed of the uncertain or injurious effect of mercury on the horse. The late experiments of Mr. Percivall prove that the system of this animal can be mercurialized in a much shorter time than is commonly believed, and that, to insure the good effects and beneficial operation of the mineral, it is by no means necessary that any considerable or dangerous salivation should be produced.

The case of rupture of the diaphragm, by Mr. Osborne, is valuable on account of the short period which intervened between the accidental rupture of the diaphragm and the death of the animal. In every case a cure of these lesions is out of the question.

The observations of V. S. on "Stable Treatment" are worthy of notice by the agriculturist. The food of the farmer's horse might be considerably improved. Much danger might be avoided, and yet little additional expense incurred. The abandonment of cattle to the dangerous management of the cowleech or the farrier is a circumstance that cannot be too forcibly exposed. Sufficient cattle are now destroyed by the different epidemics that are rapidly succeeding each other, without exposing them to the shameful ignorance and murderous practices of the ignorant pretender. Much reformation, we trust, will now be effected in this respect.

The paper of Mr. Page was accidentally mislaid. There is too much tendency to epidemic disease among horses pervading several districts to permit us willingly to lose any assistance in conquering it. There are some valuable remarks in this short paper, and we should be truly obliged to any of our friends who will grapple with this important and fearful subject.

Every improvement in the surgical treatment of the horse will be duly estimated. The division of the flexor tendon is an important operation, and there are little differences of opinion with regard to the manner in which it should be performed. Mr. Charles Wills has our thanks for favouring us with an account of his method of proceeding.

Next follows a case of tumour on the mesentery, by Mr. Mather, of Edinburgh, and a more important one of polypus on the heart, adhering to the tricuspid valve, and almost closing the right auriculo-ventricular opening. Mr. Mather guessed at the existence

of disease of the heart, from an irregularity in its systole and diastole. How few of us are so well taught as at once to detect a morbid lesion like this in the central organ of circulation! How few who have accustomed themselves to the examination of the different sounds of the heart! We owe a great deal to our deceased friend, Mr. John Field, for directing our attention to this new species of veterinary examination. The present writer will not soon forget the ardour with which this ornament of his profession maintained the possibility of the existence of polypi or other tumours on the heart, and especially when they arose from or were connected with some inflammatory state of the organ, and this probably existed in the case which Mr. Mather relates.

We will not enter into the question whether this abnormal structure arose from the heart being diseased, along with other organs, in repeated attacks of influenza, and that it may then be possible that the epidemic which has lately prevailed consists chiefly of a disease of the heart. We have not at present sufficient data on which to form our opinion, but we cordially thank Mr. Mather for this interesting paper, and lament that the use of the stethescope during the life of the animal, and the examination of the vital organs after death, are so much neglected.

We now arrive at a very important paper, on the Epizootic among Cattle in 1840, by Mr. Hutchinson. He gives a rapid sketch of more than 200 cattle which came under his care from July to December in that year, and follows this up with a reply to the various questions I presumed to put to many of the profession during that epidemic. His paper is here selected for the kindness with which he replied to a variety of interrogatories; but it is only one of a great number of other documents most truly valuable, and which the compiler can never forget.

Some most important documents now present themselves. Another epidemic, essentially different from the former, has made its appearance, and its ravages are dreadful. In the neighbourhood of the metropolis more than 400 deaths have occurred: the writer would hardly exaggerate if he said that nearly twice that number have either been destroyed by the disease or killed and sent to the butcher before the meat was deteriorated. In its

essential character, and in the course of treatment which alone seems to possess any controul over it, it differs most materially from that of 1840.

Some kind friends have favoured the Editors with a detailed account of it—an account which reflects on them the highest credit. Still it is a wide field. There are variations in the character of the disease, and in the effect of different modes of treatment. It is a most interesting subject, and he will deserve well of his country who can throw any important light upon it. May we entreat our friends to favour us with their experience? They would, indeed, confer on us, and on their country, much obligation.

Some observations on our gleaning from the French Journals shall appear in the next number. Y.

THE IMPORTATION OF CATTLE.

WITHIN the last two or three weeks there has been a very extensive importation of cattle. In the course of three days there were landed at Hull, from Rotterdam and from Hamburgh, no fewer than seventy cattle, fourteen sheep, and ten pigs. Among the cattle from Rotterdam were twelve milch-cows, which yielded an abundance of milk, and were disposed of at an average price of £13 per head. Those from Hamburgh were fine young beasts, averaging from forty-five to fifty stones.

In the preceding week no fewer than ninety were exhibited, twenty of them from Spain. The weight of the best of them was about ninety stones of eight pounds; and they sold from £16 to £18 each.

The following scene that occurred at Guildhall ten days ago will give a tolerable sketch of the present state of the foreign cattle market:—

Mr. Venables, a very considerable butcher in Newgate Market, having given evidence on a charge, Sir Peter Laurie said he was glad to get information from practical men. He wished to know whether the importation of foreign cattle was decreasing or increasing.

Mr. Venables said that it was increasing. There were some very fine Spanish cattle in Smithfield Market on Monday. The price paid in Spain was very low, and the importers had made a good profit.

Sir Peter Laurie asked if an importation from Spain had been expected?

Mr. Venables said, certainly not, on account of the length of the voyage; but they came in good condition for killing. No foreign meat, however, was equal to our own.

Sir Peter Laurie said he had recently visited Belgium and Holland, and to him the cattle thereabout seemed to be in excellent condition.

Mr. Venables said, that what we had received from that quarter was certainly very fine.

Sir Peter asked what reduction had been effected in the price of meat?

Mr. Venables replied a halfpenny a pound. Prices would never rise above the present level, and it was clear they must go lower in a year or eighteen months. Large quantities of American salt pork was coming in. It was a very superior article, and the sale would be extensive. At the Barnet Fair just closed no cattle could be sold but at a reduction of £3 a head on the last year's prices. On the last day of the fair 22,000 cattle remained unsold; while on the same day of the last year not one head remained unsold as early as two o'clock.

Sir Peter asked what would become of the unsold beasts.

Mr. Venables said they would be driven about to other fairs, and sold at the same reduction of three pounds per head. The graziers were suffering now, but, ultimately, the landlords must bear the loss.

THE CONNEXION OF ELECTRICITY WITH THE INCUBATION OF BIRDS.

By R. Hill, *Esq., Spanish Town, Jamaica.*

"Naturalists have remarked," observes Mr. Hill, "that, in tropical countries, there are a greater number of birds that build close nests than in the temperate climate of Europe. In the West Indian Islands, with the exception of the pigeon tribes and the humming-birds, the nests are almost uniformly circular coverings of dried grass, varied by intermingled cotton, moss, and feathers, with an opening from below, or an entrance at the side. The Banana-bird weaves a hammock of fibres, sometimes of horse-hair, deep and purse-like, and loosely netted; the *muscicapa olivarea*, a hanging cot of withered leaves, straw, moss, fibrous threads, and spiders' webs, fitted together; and the mocking-bird builds, in the midst of a mass of wicker work, a neat nest of

straw, lined with hair. The woodpecker and the parrot take to hollow trees; but I hardly know an arboreal bird beside that constructs any nest that is not wholly covered or doomed over. Very many insects that are exposed to the air during their metamorphoses weave coverings of silk and cotton, in which they lie shrouded, at once impenetrable to moisture and uninfluenced by the disturbances of the atmosphere. It would seem that the object, whatever it be, is the same in both. It is not for warmth that the insects spin these webs, for they form their coverings of silk and cotton in the hottest period of the year; and I find that, whilst all our birds that build open nests breed early, those that construct the doomed and spherical ones nestle in the season between the spring and autumnal rains, when the air is saturated with electricity, and is in a state of constant change.

"The destructive influence exercised by the active electricity of the atmosphere on the eggs of birds, accords with that organic gradation by which the high embryonic animals commence vegetative life with an organization similar to that of the lower. The successive stages of development presented by the egg during incubation exhibit the heart and great vessels constructed like those of the Batrachian reptile, with reference to a bronchial circulation. In the descending scale of organization in animals, where the respiration is low and the irritability high, the electric stimulus is rapidly fatal. Fish and crustacea perish in great numbers under the influence of a thunder-storm; and the half-matured embryo in the egg is destroyed by the disturbances which prevail during the activity of the summer lightning.

"Electricity being entirely confined to the surface of bodies, and the quantities they are capable of receiving not following the proportion of their bulk, but depending principally upon the extent of surface over which it is spread, the exterior of bodies may be positively or negatively electric, while the interior is in a state of perfect neutrality. Under isolation the quiescent state of the electricity occasions no sensible change in their properties. The power of retaining the electric fluid depending upon the shape, and the sphere and the spheroid retaining it readily, while it escapes from a point, or is received by a point with facility, the enveloping the eggs of birds in dried and non-conducting materials spread entirely and widely round is a means of steadily maintaining an uniform distribution of the electricity, and with it of preserving that state of quiescence by which no sensible changes are communicated to the embryo within. Thus at a time when the air is excessively disturbed by explosions of lightning and by shocks of thunder-storms, the business of incubation

is carried on in a space completely isolated, and the egg suffers no change of property by the varied electric action that is prevailing in the free atmosphere around."

Proceedings of the Zoological Society of London, Part IX, 1841, *p.* 69.

DEADLY ADULTERATIONS.

Such is the title of a little book that we picked up the other day. We will fill up our half page with a few of its exposures of medical adulterations.

Vinegar is adulterated with sulphuric acid, a variety of acrid vegetable substances, and frequently contains metallic impregnations of tin, pewter, and copper, from the stills or vessels in which it is made. It is generally prepared from malt; and, to be good, should be of a pale brown colour, perfectly transparent, of a pleasant and rather pungent acid taste, but without acrimony, and having a fragrant, grateful odour. A false strength is given to it by sulphuric acid, capsicum, and pellitory of Spain. The first, which is the most common, adulteration may be detected by putting a few drops of acetate of barytes into a glass of vinegar. Filtrate the precipitate thus produced, and heat the residuum in a tobacco-pipe until red hot; then put it into a little diluted sulphuric or muriatic acid. If the precipitate does not dissolve, the vinegar is adulterated.

Olive Oil should be of a bright pale amber colour, with a slight greenish shade, free from sediment, bland to the taste, and without smell. It is frequently adulterated by oil of poppy-seeds or a decoction of cucumbers. This may be detected by exposing the mixture to a freezing temperature. The olive oil will become frozen, and the ether will remain fluid. It is frequently impregnated with lead, from the fruit being compressed between leaden plates, or suffered to remain in pewter or leaden cisterns in order to become clear before it is offered for sale.

Arrow Root is too often prepared from the fecula or starch of dry mealy potatoes, with a portion of the arrow root, variable according to the conscience of the dealer.

Opium, in a concrete state, should be of a blackish brown colour, of a strong fœtid smell, of a hard viscous texture, and, when rubbed between the finger and thumb, perfectly free from roughness or grittiness. It is liable to great adulteration, being mixed with cowdung, a powder composed of the dry leaves, stalks of the poppy, the gum of mimosa, and other substances. The flavour alone will indicate its goodness in a liquid state.

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LECTURES ON HORSES.

By WILLIAM PERCIVALL, *M.R.C.S., Veterinary Surgeon First Life Guards.*

LECTURE VI.

THE FORE LEG, OR CANNON.

AS the knee of the horse is the part which anatomically corresponds to the wrist of man, so the fore-leg, by the anatomist, is compared with that part of the human hand which extends from the wrist to the roots of the fingers; the *metacarpus*, as it is technically called. Hence the three bones composing the fore-leg in the horse are named, in accordance with the human metacarpus, the *metacarpal* bones. Carrying comparisons and names so far as this, however, appears, as Sir Charles Bell has aptly remarked, "losing the sense in the love of system." "There is no regular gradation," adds Sir Charles, in allusion to the many kinds of formation discoverable in the limbs, and other parts of animals, "but a variety most curiously adapting the same system of parts to every necessary purpose."

THE METACARPAL BONES, those that compose the leg, are three in number, viz. one *large* and two *small*. The large bone, one of the cylindrical class, and one that is particularly straight and round and smooth in its form, commonly goes by the name of *the cannon bone:* an appellation given to it, I imagine, from some sort of resemblance it bears, it being perforated, to the barrel of a *cannon*, or else to a tube or pipe, which in Latin is *canna*, and from which our words *cannon* and *canon* are said to have been derived. The two small bones are very commonly called the *splent* or *splint*

bones; either because they are the seats of splents or splints, or from their own resemblance to splenters or splinters of wood, or of other hard *splitting* substance. The cannon bone constitutes the shaft of support of the leg: above it and upon it, with the interposition of the knee, stands the arm; while its lower end rests upon the pastern bone. The splint bones, pyramidal in shape, and adherent to the sides of the cannon, taper downward into points, or rather terminate in small tubercular knobs, which have no resting-places—no articulation with any bone beneath them; the consequence of which is, that the *whole* of the weight they receive in the support they give the body must have been directly transmitted to the cannon bone, had they not been cemented to its sides by a soft elastic substance, something of an intervening nature between cartilage and ligament, which admits of their yielding downward;—"descending," as Professor Coleman's expression used to be—every time pressure from above is imposed upon them. And as the superincumbent weight, in accordance with the laws of the centre of gravity, bears more upon the inner than upon the outer sides of the limbs, so the inner splint bone is furnished at the knee with an independent joint, i. e. one of the bones of the knee-joint rests *exclusively* upon the head of the inner bone; which is not the case with the bone on the outer side, that receiving but *a part* of the articulation of the bone of the knee above it*.

This yielding downward or descent of the splint bones on the imposition of weight, and of the inner more than of the outer bone, and the instantaneous recoil of them or ascent the moment the active pressure has ceased, has long, by veterinarians, been regarded as one of many contrivances, operating, after the manner of a spring in the limb, to save the animal machine from receiving that concussion which otherwise must necessarily result from its great action and speed: some of the weight or pressure which, otherwise, must all have been received in a direct line by the cannon bone, and from it have descended to the pastern, is now diverted for the purpose of setting these springs in operation, and thereby conferring elasticity and ease on the animal's movements.

Such has been the use ascribed by veterinary schools to these bones, and no question that I know of has been raised about its propriety, before Sir Charles Bell took it into consideration, and expressed his dissent from it. "I have some hesitation," says Sir Charles, in his Treatise on 'The Hand,' "in admitting the

* A reference to these parts in the skeleton will demonstrate what I have said.

correctness of the opinion of veterinary surgeons on this curious piece of mechanism. They imagine that these moveable splint bones, by playing up and down, as the foot is alternately raised and pressed to the ground, bestow elasticity, and prevent concussion. The fact certainly is, that by over-action this part becomes inflamed, and the extremities preternaturally joined by bone to the greater metacarpal or cannon bone; and that this, which is called a splint, is a cause of lameness."

"I suspect, rather," continues Sir Charles, "that, in a perfect state of the joint, these lesser metacarpal bones *act as a spring to throw out the foot when it is raised, and the knee bent.* If we admit that it is the quickness in the extension of this joint on which the rate of motion must principally depend, it will not escape observation, that, in the bent position of the knee, the extensor tendons have very little power, from their running so near to the centre of motion of the joint; and that, in fact, they require some additional means to aid the extension of the leg."

"Supposing that the head of the lesser metacarpal bone," says Sir Charles, in explanation of the above, "enters into the composition of the joint, it does not appear that, by its yielding when the foot is upon the ground, the bones of the carpus can descend, as long as they are sustained by the greater metacarpal or cannon bone; I do not, therefore, conceive that this bone can add to the elasticity of the foot. But when we perceive that the head of the splint bone is behind the centre of motion in the joint, it is obvious that it must be more pressed upon in the bent position of the joint when the foot is elevated, *and that then the bone must descend.* If the splint bone be depressed when the limb is raised and bent, and have a power of recoiling (which it certainly has), *it must aid in throwing the leg into the straight position, and assist the extensor muscles of the knee.* Further, we can readily believe that, when the elasticity of these splint bones is lost, by ossification uniting them firmly to the cannon bone, the want of such a piece of mechanism essential to the quick extension of the foot will make the horse apt to come down."

Supposing the horse's foot to be placed upon a perfectly level unyielding surface, and the weight from above to be thrown upon the limb in a direct line with the centre of motion, "it does not appear," as Sir Charles has observed, "the bones of the carpus can descend." But, supposing the animal's foot to be placed upon an uneven surface, or upon one that becomes so by yielding, may there not be such tilting of the carpal bones from the one-sided disposition of the weight expected to take place as will press downward the splint bone of one side, and so bring both bones into operation alternately or incidentally, as the case may be, depending upon the

side to which the weight is inclined, which, commonly, is the inner one? According to this view, their operation is, of course, single, and independent of each other: according to former accounts, it was combined and simultaneous.

It is more than we dare assert, that the splint bone, from any pressure it receives in the bent condition of the joint, does not yield even to the extent of its elasticity, or to use the common phrase, though, as we think, an over-doing one, "descend;" but we certainly must pause ere we can believe such a trifling movement as this so-called *descent*, after all, can amount to, can have any effect in aiding "in throwing out the leg into the straight position, and assisting the extensor muscles of the knee;" too insignificant a cause, we conceive, to produce an effect so perceptible and so powerful.

Be the operation and use of these elastic powers what it may, few horses retain them after the adult period: the ligamentous elastic material becomes converted into osseous inelastic substance, and thus the three bones, in point of fact, consolidated into one. Do we discover any difference or alteration in horses' action on this account? Is there any person can say, after he has mounted and ridden a horse, whether that horse have ossified splint bones or elastic ones? I have ridden numbers of horses in my time; and, as a general rule, certainly find that young horses possess more elasticity in their movements than old horses; and this is readily enough accounted for when we come to consider the number of animal springs there are in the body, all or most of which become impaired, and some altogether lost, in the course of age and work: among them, however, I should say those of the splint bones were probably the smallest in importance, and therefore would be the least of all missed.

In every horse that has splints this conversion of elastic into osseous union has necessarily taken place; and, as I said before, this is also found to be the case in every horse of a certain age, whether he shew splints or not; for the appearance of the splints is simply owing to *increased* or supplementary deposit of osseous matter, and is not the effect of mere ossification of the elastic substance. And this shews that when lameness arises from splint—which it occasionally, by no means always, does—that it is not attributable to the mere circumstance of the conversion of the uniting substance of the metacarpal bones from elastic into osseous matter, but is ascribable to the tumour, and we believe is caused by the straining or overstretching of the *periosteum*, the membrane which covers the bone. Were horses who had lost these springs to go lame, or even perceptibly roughly or jarringly, the preservation of them, and the ascertainment whether horses really possessed them

or not, would become considerations of importance to us: since, however, we are, in truth, unable to say, from a horse's action, either on or off his back, whether these springs be in existence or not, we give ourselves, in practice, no concern whatever about them.

Short straight cannons are most desirable: as I have said in another place, length of arm and shortness of leg are *good points*—are signs of strength and action and endurance. While the distance from the elbow to the knee can hardly be too lengthy, that from the knee to the fetlock can hardly be too short: and the cannon bone should be straight in its position; neither inclining forwards, as in the calf-leg; nor directed backwards, as when the fore limb, either from the length or position of the humerus, is running backward in that manner which gives the effect of what is called "standing over." The leg in form in the living horse should be flat and broad, not what is called "round:" the sinew should stand out far behind the bone, and feel tense, and distinct, and hard; and the interspace between the sinew and bone should give to the fingers the sensation of *a hollow*, a totally unoccupied interval, and not one filled up with soft substance, called, in horseman's phraseology, "gum." The cannon bone itself cannot be too large, providing there be breeding in the horse; and the only way to "judge of legs" is to *feel* them: by grasping them we ascertain their size; and by feeling them with our fingers we discover most surely what the proportion of sinew and bone is, compared with the weight to be carried. It is a frequent complaint, that horses are "small below the knee," meaning thereby that they are deficient in bone. In making this assertion, however, we should be careful not to be deceived by appearances; for the fore limbs will, now and then, have the appearance of wanting bone and sinew, when such is really not the case: in fine, the sole sure mode of "judging of legs" is to *feel* them—"run the hand down them," and span them; by which test one man can estimate a leg better in the dark than another, by simply looking at it, can in the light. It is very common to hear a gentleman say, "that horse is light below the knee;" to which the dealer, who *knows* his legs to be good, naively replies, "I think, sir, if you will *feel* them, you will not find any deficiency there!"

[To be continued.]

INTRODUCTORY LECTURE ON THE OPENING OF THE MEDICAL SESSION, 1842-43,

DELIVERED AT THE MIDDLESEX HOSPITAL,

By ERASMUS WILSON, *Esq.*

Lecturer on Anatomy and Physiology in the Middlesex Hospital School of Medicine.

[We are induced by two considerations to insert a portion of Mr. Wilson's introductory lecture at the Middlesex Hospital,—the importance of the subjects on which it treats, and the original and impressive style in which it is written.—ED.]

Gentlemen,—ON our first introduction to an individual, a natural question, Who is he? what is he? arises to the mind. It is my duty, this day, to introduce you formally to the science of medicine; and you may as naturally inquire, Who is she? what is she? Medicine, Gentlemen, is the science of health; the science by which we are taught to cure disease, to relieve pain, to treat the physical infirmities of mankind. Medicine in the early ages of the world was a science thought worthy of the gods, and her sceptre recognised no inferior sway to that of kings and princes. Moses, the great leader of the Jewish people, was a physician, and a learned and able practitioner; Chiron, Hercules, and Achilles, were adepts in the practice of medicine; Esculapius, the father of physicians, was a king; and his sons, Machaon and Podalirius, were no less distinguished in arms than in the arts of cure. These, Gentlemen, are our ancestors. This is our profession. These are our companions of the past and of the future. These are the spirits whom we have to emulate and admire; and, let me assure you, that is no small privilege to be permitted to mingle your names with theirs, to be admitted amongst them, to enter the sacred portals of our pain-healing, ease-conferring profession.

Your first question answered, the next that makes itself heard is, How may we become worthy to walk in so noble an arena, to take arms in so majestic a cause? Gentlemen, the reply is brief. You must be virtuous; you must be untiring in your efforts to excel. The soul that could be content with mediocrity has no right within the precincts of the medical profession. To do our duty to the divine office we seek to fill, we must ever strive to occupy the highest place, otherwise we may chance to fall below even the lowest. The good physician of medicine must be endowed with

benevolence, he must be possessed of religious principle; and these, the two cardinal virtues of a good man, must be girt about with unswerving uprightness and conscientiousness. These principles beget industry, for their lustre is wanting without the activity which gives them exercise: they beget perseverance; while conscientiousness enforces punctuality and the rigorous fulfilment of duty. These, then, Gentlemen, are the qualities necessary to constitute an honourable and estimable member of the medical profession. The standard is lofty, you may mentally exclaim. You may feel inclined to ask, Can no fragment be dispensed with? The answer is, None. Without all, we are unworthy members of a noble profession; we are that which we should despise in others: let us, therefore, cast the eye of strict scrutiny inwards upon ourselves.

Turning from the first part of a medical education, the ethics of medicine, the shaping of our character to a living model of integrity and uprightness; we may next direct our attention to the intellectual man, to the studies which constitute the basis of our science.

Our first studies commence with our schoolboy-days: we are early made acquainted with the admirable writings of the Greeks and of the Romans, and our minds are therein made to receive a bias that tends to an extent beyond belief to the refinement of our manners and future character. The cast-iron and wooden days have happily passed away, when the human mind in its infant state was bruised into form by physical force by dint of hard belabouring of its external case with the instructor's ferule, while the fathomless dictionary and the mysterious grammar were its only and its miserable assistance. Quitting the path of dreamy ignorance, instructors of modern days pursue the practice which Nature herself indicates as the true mode of acquiring learning which Nature employs in teaching to infants their mother tongue. They teach ideas, ideas dressed in the most attractive and agreeable forms; and when ideas have been attained, they furnish us with rules and laws by which those ideas are to be arranged, and new ideas created at our will. By this means the labours of older and abler heads are made available to the young and unpractised in thought; the studies of a year are concentrated into the focus of a week; and learning, once the bane of budding intelligence, is rendered agreeable and pleasant. A good classical substratum is most valuable and important in medicine; and if any of my hearers should have cause to deplore the tenuity of their resources in this respect, let them take courage in the reflection that it is never too late to begin.

The medical apprenticeship of five years, required by the Ex-

aminers of the Apothecaries' Company, receives most deservedly much of the odium of the deficiency of the medical student in classical information. The examiners still continue to enforce the letter of their law to the oblivion of its spirit. They insist upon the possession of the parchment, without taking any steps to secure to the apprentice the instruction which that parchment was intended to ensure. This is the more to be regretted, since the Board of Examiners of the Society of Apothecaries are composed of men of enlightened judgment, who have contributed more than any other of our corporate bodies to the improvement of medical education. The five years of apprenticeship of the medical student are in too many instances not merely wasted, for their effect is worse even than that;—they are, too frequently, a period during which mental idleness is confirmed, and bad and dangerous habits are acquired.

The studies which are necessary to the acquirement of a knowledge of the medical profession, the purely medical studies as they may be styled, in order to distinguish them from the classical and scientific pursuits which constitute the education of every gentleman, the purely medical studies, are all comprehended under the general term, MEDICINE. If we proceed to the analysis of medicine, we find it to be constituted primarily of medicine and surgery; the former, according to the old signification of the term, being confined to the consideration of inward complaints, and the latter being limited to outward diseases, and principally to injuries. The origin of these appellations it may be convenient briefly to develop, in order to comprehend the nature of a distinction which has been handed down to the present day, in virtue of a feud which the two terms seem to have engendered between brethren exercising the same profession, both disciples in the same good and sublime cause.

In the days of our forefathers, medicine, as at the present time, was the science of treating disease, and its practitioners were called physicians. The physicians, as I have before observed, were men of great learning; they were for the most part priests, that is to say, they devoted their lives to the service of God, and to the diffusion of the blessings derivable from that first source among the people. To qualify for this sacred office it was necessary to be versed in the learning preserved in the records of the temples; and they added to their sacred offices the study of nature, and the storing together in the records entrusted to their care the experience which they gathered from their studies and from the treatment of the sick. Such is the primitive physician; and the standard of the present day, it must be acknowledged, has not far departed from the glorious original.

It will immediately be perceived that the physician-priest must have taken the place of the more usual mode of treating the sick, or, in other words, his services could only have been sought in cases of severity and danger; that in others of less moment, such as wounds and the more trifling diseases, the medical management of the sick must have been left to the good wives of the household, or to some lay individual who may have shewn tact and cleverness in the treatment of similar cases, and had leisure to give to the pursuit. Such a person existed in the barber, who, acquiring expertness of manipulation in the duties of his office, information from the tongues of those whose beards he pointed, and furnished with the opportunity of displaying his acquirements, naturally became the right-hand man of the housewife in cases of emergency. He could cleanse excoriated surfaces of the irritating matters that oppressed them; he could pour oils and balsams upon wounds; he could bandage and set straight broken and dislocated limbs; and, finally, he added to his other accomplishments, in imitation of Podalirius, bleeding with dexterity. Such is a profile sketch of the barber-surgeon; the ancient practitioner of medicine, more ancient even than the physician. As the barber-surgeon increased in reputation, or rather, perhaps, as the science of medicine by degrees offered a more enlarged field for occupation, the barber-surgeon relinquished that part of his calling that ministered to the outward adornment of the person, and reserved his time and his thought for the exclusive treatment of disease, and the performance of those operations which the priest-physician thought desirable. Such is the barber-surgeon: I need not stop to shew to what a magnificent tree the once humble shoot has now waxed.

The distinctions between the physician and the surgeon were not to be maintained as science progressed. The surgeon no longer found separate employment in the treatment of wounds and external complaints, but a higher grade of education taught him that many external diseases originate in constitutional disorder, and he was compelled to intrude upon the once sacred department of the physician. The surgeon of the present day no longer inquires if the disease which he is called upon to treat is confined to the exterior: braced with the armour of knowledge that may breast and defy the invasions of disease, whatever aspect the enemy may assume, he treats disease according to the principles of our common science, medicine. The physicians, as a body, have not as yet thrown up their special attention to internal disease: their natural range is far wider than that of the surgeon, and necessity and policy together combine to preserve the early distinctions of medicine.

The limitation of medicine to one or other of the departments of practice which are here implied is unquestionably conducive to the improvement of our science. Internal medicine, as well as that which is external, is improved by separate culture; for the entire subject, although not too extensive for the grasp of a single individual, is far too vast to reap advantage from his labours, and can alone be perfected by separate study. Nevertheless, medicine and surgery combined form the common practice of our country; they constitute the field of utility and exertion of the general practitioner, and in his hands are signally successful. Britain may boast with pride that her practitioners of medicine are surpassed by none others in the world.

Recurring to the subject of medical studies, from which I have somewhat deviated, and taking medicine as the pinnacle of our temple, we have seen it to be raised upon an arch, representing by its one extremity internal medicine, and by the other external medicine or surgery. The pillars which support this arch are—

Anatomy,
Physiology,
Chemistry,
Therapeutics.

Midwifery and Jurisprudence are cornices which run through the entire span of the arch, belonging alike to internal medicine and external medicine. Virtue, by its elements, Religion, Conscientiousness, and Benevolence, constitute the foundation of our architecture; and Education, classical and intellectual, are the steps by which we ascend to its portals.

Anatomy is that part of our science which teaches the structure of the animal frame; the form, the size, and the position of its various parts, their mutual combinations and dependencies. It teaches us that the animal body is composed of bones and cartilages; of ligaments; of muscles, with their tendons and aponeuroses; of bloodvessels with the propelling organ of the blood, the heart; of lymph-vessels and chyle-vessels; of nerves, with their central masses, the brain and spinal cord; of organs or viscera for the purification of the blood; of others for the digestion of our food; of others, again, for the perception of relation with surrounding objects; and, lastly, of organs for the perpetuation of our race. While we examine these constituents in man alone, we are engaged in the study of *Human Anatomy;* and when we discover the necessity as well as the advantage of comparing the structure of man with the rest of animals, a delightful episode, we occupy ourselves with *Comparative Anatomy*. The anatomist, however, is not long content with the bare enumeration of the constituents of the animal body, with their forms and

other physical attributes; he seeks other information than that which the preceding, or *Descriptive Anatomy*, as it is called, can furnish. He requires to be made acquainted with the intimate structure and composition of the bones and cartilages, the ligaments, the muscles and their tendons and aponeuroses, the vessels, the nerves, and the viscera; he seeks, in fact, that learning which is comprised under the term *General Anatomy*. General Anatomy resolves the animal body into separate tissues, such as osseous tissue, fibrous tissue, muscular tissue, &c.; these tissues, again, are distinguished according to their more elementary composition of *proximate organic elements*, viz. of fibrine, albumen, gelatin, &c.; and these latter it further resolves into *ultimate organic elements*, viz. oxygen, hydrogen, carbon, nitrogen, &c., beyond which man's investigation is unable to proceed. Such is the anatomy of health; but it not unfrequently happens that the constituents of the body, altered by disease, put on appearances different from their normal characters; the study of these peculiarities, with which we become familiar by continuous application and observation, constitutes *Morbid* or *Pathological Anatomy*.

It is needless to enlarge upon the advantages of anatomy, or upon the necessity of a thorough knowledge of its branches to the physician and the surgeon. I may illustrate its value by inquiring, how the physician can detect and distinguish a disease of the heart, a disease of the lungs, of the stomach, or of the kidney, without a clear perception of the situation of these organs? How can the accoucheur establish a correct diagnosis as to the result of a case of difficult labour, without a perfect knowledge of the anatomy of the pelvis and its dependencies? How can the medical jurist announce an opinion on the effects of poison or injury inflicted on the tissues of the body, without a knowledge of these tissues in their normal state? In what manner can the surgeon discover the parts injured by a bullet shot, or by a small sword wound, who is not thoroughly acquainted with the structure of the regions in which the injury is received?—or, again, How could he perform an operation calling for a lengthened dissection, among parts rendered intricate by morbid displacement, without being able to recognise, at every line of his progress, the tissues between and through which his knife is making its way?

Anatomy, again, teaches us the presence of an Eternal Wisdom in the construction of the animal frame—it teaches us to comprehend an omniscient design. That design which, to sustain the huge carcass of the elephant with the material necessary for his nutrition, provided him with millstones, in the form of teeth, for the trituration of the vegetable substance on which he feeds;—

millstones which, from their composition of alternate layers of dense enamel, less dense ivory, and least dense crusta petrosa, always present the conditions favourable for grinding, namely, a rough surface; millstones which, unlike those hewn from the rock by the hand of man, continue to rise to their original level as fast as they are worn away by use, which grow during the whole life of the animal, advancing from the posterior parts of the sockets of the jaws as they are worn away by friction in front; that design which, to move the enormous jaws in which these teeth are imbedded, and at the same time to sustain their prodigious weight, has separated the two tables of the skull to an extraordinary extent, in order to furnish surface for the attachment of large and powerful muscles; which still further, to provide for the weight of the head, has placed it near the shoulders of the animal, almost over the two stout pillars which support the anterior part of the colossal trunk of his body, instead of attaching it to the extremity of a lever, as in the horse or giraffe, where, once lowered to the grass, it seems to defy the creature's strength to raise it; and which, to compensate for this shortness of neck that deprives the animal of the means of cropping the verdure of its native plains, like other herbivorous quadrupeds, has created an organ which combines strength with rapidity and pliancy of movement, and which is at once an arm, a hand, a drinking-cup, and a weapon of deadly force. I select this out of the thousand examples that anatomy spreads before us, because it was a favourite illustration of one who not long since stood upon these boards, but who has now departed from among us; who has left the instances of heavenly design so richly crowded around us as to enable us to read in the great volume of Omniscience the secret laws which direct the principles of design and govern the universe; one who was known and valued by many around me, and to whose memory even they to whom he may have been known only by his works will not refuse a sigh consecrated to a great man and an eminent physiologist,—Sir Charles Bell.

Physiology is that part of medical science that discovers the uses and modes of action of the various constituents of the animal fabric. As anatomy is the study of the organism at rest, physiology pursues its varied phenomena of activity. It teaches us the uses and intent of the multiple forms that occur among the bones; the nature of the movements of the numerous joints; the dynamic forces and actions of the muscles; the hydraulic operations of the circulating fluids; the functions of the nervous system and organs of sense, and of the viscera of organic life. Physiology, like anatomy, may be *human*, or it may be *comparative*; it may be *general*, or it may be *special*; it may be the physiology of *health* or of *disease*. The physiology of disease is

termed *Pathology*, and this department of our science bears the same relation to morbid anatomy that physiology holds to normal anatomy; teaching us not only the existence of morbid products, but shewing us in what manner these products are formed, and in what manner they are capable of displaying their action upon the rest of the system.

Chemistry is equally important with anatomy as a pillar of the temple of medicine. I have already remarked, that anatomy avails herself of the assistance of chemistry in discovering the proximate and ultimate composition of the animal tissues; but it is as an auxiliary to pathology that chemistry is especially useful, and chemistry in its most valuable branch in relation to medicine, viz., organic chemistry, has recently become a new science in the hands of the distinguished Liebig. By the aid of chemistry we are enabled to test the purity of the atmosphere which we breathe, of the water which we employ as drink, and of the food which we take for our support. By chemistry we are enabled to detect disease in deeply hidden organs, as in the kidney: we can ascertain with precision the nature of stone within the bladder, and by its means we are directed to the proper measures to be adopted for the cure of these diseases. Chemistry, again, is an invaluable agent in the discovery of poisons, and in the determination of the proper agents to be employed for the purpose of preventing their effects.

Materia Medica and Therapeutics are the coffers in which the remedies of medicine are contained. The perfect diagnosis of disease and a complete knowledge of its pathology would be useless, without an equal degree of information on the means which nature and art have assembled together for its cure. It is for his therapeutic knowledge that the public value the medical man, and upon this point they assume to themselves a right of judgment. This is a branch of medical study which is eagerly pursued—one which, though its details may be uninteresting to the student, is of the utmost value to the practitioner, and one of which the knowledge or its absence tells in his walk through life, and facilitates or impedes his progress.

I have thus, Gentlemen, endeavoured to present to you a brief sketch of the profession into which some among you are about to enter, and I feel that I cannot conclude more aptly than by again urging upon you the reflection that knowledge, talent, and industry, will avail you little in your profession, and will gain you little esteem, either among your professional brethren or in the eyes of the public, unless you conjoin with mental ability the uprightness and dignity of conduct which are the natural offspring of a religious and a virtuous life.

AN ACCOUNT OF A GANGRENOUS DISEASE AMONG CATTLE IN THE UNITED STATES.

By H. S. Randall, *Esq.*

Cortland Village, Cortland Co., State of New York, United States, Sept. 10th, 1842.

Dear Sir,—A disease peculiar in its character, and exceedingly fatal in its effects, has, to a greater or less extent, made its appearance annually among the cattle of the United States for the last few years. The time of its attack is winter. The first symptom usually perceived is a slight swelling, accompanied with a small degree of stiffness about the lower joints and pasterns of the hind legs. The inflammation is not acute, and suppuration rarely takes place in any stage of the disease. So slight indeed is the local inflammation, and so little derangement does it produce on the system generally, that it not unfrequently remains unnoticed until a more fatal stage of the malady intervenes. The cow eats with unabated appetite; the muzzle remains moist; the eye retains its brightness and natural expression; and, strange to tell, in most of the cases that have fallen under my observation, these symptoms continue to the last. The disease, therefore, would seem to be almost entirely local in its character.

The first stage which I have mentioned is, however, far from being uniform in its diagnosis: it is soon followed by apparently *dry gangrene*, commencing about the coronet of the hoof, or within the hoof, and extending upwards to the lower extremities of the metatarsal bones. I never have seen it extend for more than two or three inches above the upper pastern joint.

The flesh on the affected part becomes black or dark-coloured, dry, hard, and resembling *leather*. It loses its sensibility, and, on cutting it, a little black blood alone escapes.

In our rigorous climate it is common to find the gangrened portion of the limb frozen to the consistency of bone, though, from the suspension of the circulation, it requires no great degree of cold to effect it. The impression, indeed, prevails among many of our farmers that the whole disease is produced by a freezing of the parts. By many, this is the first symptom discovered, so insidious is the approach of the malady. But if produced by freezing, why is the coagulation so uniformly limited to such certain and prescribed bounds? The gangrene ascends the leg uniformly on each side. If caused by freezing, the line of separation between the frozen and unfrozen parts would not be so clearly defined, or so uniformly exhibit a regular transverse sec-

tion or ring passing round the leg at right angles with its length. If frozen when the animal was in a recumbent posture, as would be oftenest the case, the upper and more exposed portions of the limbs would be frozen *higher up* than those partially protected by the bedding or other substance with which they were brought into juxtaposition.

Well, Sir, the animal, though eating voraciously, begins to grow thin: the lameness, as spring approaches, increases. As the warm weather begins to be felt, the emaciation goes rapidly on: the animal becomes a miserable and a disgusting object, crawling around on feet which have ceased to perform their natural functions, and that are united to the living parts, which they only irritate by their abrasion, by the bones and ligaments which are yet unsevered.

Strong constitutioned animals, that commenced the winter in high condition, and that were carefully nursed, not unfrequently live on until summer. The dead parts slough off; and the animal, destitute of one and sometimes both hind feet, has been in some instances partially fattened, and converted into beef! In what appears to be a milder form of the disease, death of the parts does not always ensue. The extremities, however (of the *hind* legs), lose their elasticity—the points of the hoof turn upward, and grow unnaturally long—and the cow hobbles about on her "heels," until the humanity or good taste of the owner consigns her to the butcher.

Every imaginable cause is assigned for this disease in our country—every imaginable remedy is resorted to. I should blush for the absurdity of some of the latter, were it not for the fact, that I learn from your work on Cattle—in the "Farmer's Series"—that such absurdities are not confined to the United States. But let them pass.

I may remark that practical veterinary science is yet in its infancy in this country. We have the ignorant, the pretending, the superstitious cowleech—a genus, I suppose, existing in every country; but any thing like a class of educated and intelligent veterinary surgeons are not to be found in the United States. There may be occasional instances of skilful practitioners in our larger cities, but they are little known and little consulted by our people. Every man, gentle or simple, is his own farrier. If his horse is sick, he resorts to the nostrums of the "horse doctor;" or, armed with your work, or that of Mr. Blaine, he decides and prescribes "by the book." If his cows are diseased, your work above alluded to, on "Cattle," is generally resorted to by those who go beyond the authority of the cowleech. In my own yard I have called in no other authority for many years.

But to return from this digression. The remedies which have been resorted to in the disease that I have attempted to describe, have been—bleeding at the point of the hoof, in its first stages—the application of blisters and setons to the diseased parts—and various indescribable "drinks" and "washes." In the first instance which fell under my observation I attempted to rouse the circulation by stimulating applications and active blisters, and to determine the morbid secretions which I fancied to exist by rowels smeared with the most acrid substances. I might as well have attempted to rouse action in the limb of a dead animal! This was a natural result—the part was actually dead. I ascertained this, subsequently, by finding that deep incisions in it with a knife were unnoticed by the animal. Pott administered opium to human subjects, with decided success, in cases of dry gangrene: I shall try its effects on brutes in the next cases of this malady which come under my observation.

After all, in such a disease, must we not look rather for prevention than cure? And to decide on the preventive, we must know the cause and nature of the malady. I have brought the subject before you, Sir, to ask if you are acquainted with this destructive epizootic and its treatment. If you can suggest any thing which will stay its ravages, you will confer an incalculable benefit on the agriculturists of the United States.

You will not confound the disease with the common "hoof-ail," or "fouls," which assaults all the feet equally; which usually makes its appearance at a different period of the year; which is uniformly attended with inflammation and suppuration between the claws of the hoof; and which is readily cured by the application of any caustic, or the less humane but common method of drawing a rope between the claws of the hoof.

I, in common with many others in this country, have considered this disease analogous to the "dry gangrene," which, as you are aware, has prevailed at various times in different countries among human subjects; and that it is produced by the same cause, viz. *ergot*. This substance is stated by the ablest medical writers to produce this specific effect (gangrene of the extremities) when taken into the stomach in too large quantities. It much abounds in the "spear-grass" (*poa pratensis*) of this country, and it is thought that it has appeared in larger quantities in those years in which this epizootic has committed its greatest ravages*.

Your opinion as to the probable origin, nature, treatment, and prevention of the disease, would be regarded with deep interest

* I should remark, that it does not appear every year, nor often, generally, in any one year. It is local and irregular in its visitations.

by the owners of cattle in the United States. May we hope to receive it, sir? Should, fortunately, any suggestion of yours be the means of arresting the evil, I need not say how great would be the benefit which you would confer on our whole people. Your answer to this will, unless objected to by you, be made public.

I am, &c.

[We should indeed be thankful if, in the course of the first or second week in November, any of our correspondents will throw some light on this interesting, fearful malady. Their kindness shall be promptly acknowledged. We think that we have witnessed something like it: our friends may, perhaps, be in possession of more important information.—Ed.]

A CASE OF EPIDEMIC DISEASE IN CATTLE—DIVISION OF THE POSTERIOR MESIAN ARTERY, AND ULTIMATE UNION OF THE DIVIDED PARTS.

By Professor Dick *and Mr.* Brotherton.

(Mr. Brotherton to Professor Dick.)

Knowing the interest that you have at all times manifested in the welfare and success of those who have been, or still are, in the relation of pupils to you, I am the more bold in taking the liberty of addressing a letter to you.

I am still residing with and assisting Mr. Brining, who, I am glad to inform you, has had great additions to his practice, under the recommendation of the Highland and Agricultural Society of Scotland, whose influence is not confined to the locality which is the more immediate seat of its operations, but is even felt here, many of the great agriculturists in this county entrusting the management of their farms to our countrymen.

Our practice here abounds in variety, and among horned cattle is rather extensive; and although it is emphatically dirty and laborious work, still it is, on many accounts, interesting, and, what would by some be considered better than all, lucrative.

The epidemic that has been prevalent here is one of a different and not so serious a character as that by which other parts of Britain have been visited. Its seat, in the commencement, has been entirely local, characterized by a puffy swelling in one or more of the extremities, and most developed in the heels; slowly and gradually extending upwards, and having a pustular erup-

tion on the skin of the swollen parts, as if they had previously been rubbed with tartar emetic ointment.

There is little or often no derangement (at least visible by effects) in any of the internal organs. Although the animal appears to be in an atonic state, there is no refusal of the food, no cessation of rumination or of lactation, even after one would suppose that the local irritation itself would affect the system. Horses also have been similarly affected, but with no pustules, particularly those that have been at grass.

The treatment was not difficult, and in most cases succeeded in a few days. The œdema in the hind extremities was more difficult to get rid of than when in the anterior ones. The administration of a cathartic, and local applications of a stimulating nature, followed by tonics and liberal feeding, were found the best remedies. One of these cases had been entrusted to another practitioner. It was a cow four years old, about a month before calving, lame in the off hind leg or foot, with a puffy œdema in the heel. The owner fomented and poulticed, which alleviated it for a time, made the swelling less and softer, and as it did not, as diseases of the feet often do, interfere with her feeding or milking, he thought the affair of little consequence.

The animal continued lame until she calved, when on the following day, on being sent out to grass, she was perceived to be much worse. The owner then for the first time sent for a veterinary surgeon to examine and treat the case.

The person sent for was told by the owner that the animal was lame in the foot: but he imagined that milk fever was at hand, and *bled her copiously from the foot*. He attended the cow a week after this, administered some drastic purgatives, and reduced her considerably in condition.

A second veterinary surgeon was now called in, who likewise said that the disease was in the foot, and blistered the coronet.

The irritation, increased by the addition of that from the blister, brought on considerable constitutional fever, which alarmed the owner, who forthwith sent for Mr. Brining, whose assistant I have the honour and advantage to be.

He, accompanied by Mr. James Kirkham, visited the animal, and found her in a very precarious state, evidently suffering from some local irritation affecting sympathetically the system. Pulse 100, and feeble. Respiration much disturbed. Extremities all warm, &c. The animal fed pretty well, ruminated, and gave a fair supply of milk, which she continues to do at the present time, three good indications that no internal organ of importance was affected.

On examining the foot which had been at first suspected, and

on the removal of the horn ecchymosed spots were found on some parts of the sensible laminæ, and considerable extravasation of blood in other parts of the foot, particularly on the coronary portion of the heel. Emollient poultices and soothing remedies were applied locally, and vegetable tonics with opium administered. On the following morning the animal appeared a little relieved.

Mr. Brining being determined, if possible, to find out the cause of the extravasation, the parts were more minutely examined, and, exactly in the centre of the heel, where the incision had been made by the first surgeon, and which had apparently almost all healed by the first intention, a small orifice was perceived, through which a portion of coagulated blood was protruding. Finding that the heel was filled with coagulum, mixed with flakes of fibrin, the aperture was enlarged, and three-quarters of a pound of coagulum was extracted. It was of a dark hue, fœtid, and appeared to have been extravasated for some time. How it had got there was the question; but one thing was certain, that it was acting as a source of irritation, and consequently its removal was determined on; after which the foot was again poulticed, cooling lotions applied, &c., when in about five or six hours a messenger came with the information that the cow was bleeding to death.

Mr. Brining immediately went, and found alarming hæmorrhage, evidently from the posterior mesian artery. The blood jerked out as fast as it does when a horse is bled with a large fleam in the neck. The actual cautery was tried, in order to arrest the hemorrhage, but it could not be effected. All attempts to get at the bleeding vessel were fruitless, from the swelling around the part. The hole made by the incision from which at first blood was abstracted, and from which the present hemorrhage issued, was plugged with tow and pressure applied, which with difficulty arrested the stream. The loss of blood excited the animal, and added to its existent debility.

Wishing to get the foot into the suppurative stage, and being prevented from applying our remedies in consequence of the bleeding, what was the best plan to put a stop to it? Pressure was tried, but every time the pressure was removed there was as much bleeding as before. An artery, and one of no small size, had been wounded, but how? and when?

Mr. Brining recommended to the owner to place a ligature on the metatarsal artery before its bifurcation, to which the owner would not consent until he had farther advice. Accordingly Mr. Matthew Lucas came over, and recommended the operation, after having removed the tow, &c. and seeing the hæmorrhage. On the next day Mr. Robert Lucas came and recommended a fair

trial of pressure—the plan already adopted. It was again tried, but on removing the bandage at the expiration of a week, bleeding once more supervened.

The animal becoming more debilitated, and constitutional fever increasing. Vegetable tonics, with port wine, gruel, ale, and ℈iij opium per diem, were given.

The owner, finding the powers of nature fast sinking, and no appearance of the cessation of the bleeding, consented to the operation which Mr. Brining had proposed.

As no time was to be lost, Mr. Brining, myself, and Mr. James Kirkham went to the case. We properly confined the animal. Mr. Brining operated, and after some search secured the artery just underneath the posterior annular ligament of the hock, about two inches from the top of the metatarsal bone.

This succeeded in stopping the greater part of the hæmorrhage, some trifling venous bleeding remaining, which was soon arrested by the application of the cautery. The operation greatly excited the animal.

We bandaged the parts, gave tinctura opii ℥ij, applied vinegar and cold water to the leg, which was kept constantly wet. The animal was also kept as quiet as possible.

It is now four days since the operation, and the animal is a little improved.

A few days afterwards there appeared a tendency in the foot to suppurate. The cow fed well, ruminated, and yielded her milk, although she was in a very excitable state. The pulse 96, very weak, respiration at times much disturbed, digestive functions not impaired, and although Mr. Kirkham thought that the animal would shortly die, Mr. Brining was of opinion that she would weather the storm.

Thus, then, Sir, the case now stands: would you advise any other treatment? What would be the best local applications? What tonics are necessary? If secondary hæmorrhage ensues at the falling off of the ligature, would it be advisable to take up the femoral artery? You will kindly excuse my freedom in asking these questions, but as I am anxious for the success of the case, I am the more urgent, and therefore make free to put a few more queries for my personal information.

First, How long does it generally take for pressure permanently to stop hæmorrhage from an artery the size of the one now implicated.

Secondly, Is it your opinion that there was necessity for taking up the metatarsal artery in the case previously mentioned?

Thirdly, Is there any danger from the operation; the foot being deprived of a sufficient quantity of nutrition?

Fourthly, Suppose a portion of the nerve was included in the ligature, is it probable that any bad effects would result from this?

I subscribe myself,
Respected Sir, yours, &c.

Professor DICK in reply to Mr. BROTHERTON.

Dear Sir,—THE case you describe is a very interesting one, from the curious manner in which it was treated in the early stage of the disease, and the pathological doctrines advanced in connexion with it. Your account of the phlebotomy reminds me of a case which occurred a good many years ago. An old farrier sent one of his journeymen to bleed a cow, who set about the operation in due form. Having passed a cord round the neck before operating, he desired a looker on to "haud (hold) the basin," when smack went the fleam into the windpipe. Some air, but no blood came. The operation being again and again repeated, with the same previous preparation and instructions, and the same result, the operator gravely remarked, it was "nae use trying ony mair, as there was naething but wind in her."

It appears to me that bleeding was not required in the case at all; if otherwise, the wound in the pastern would not have been of so much consequence. Be that as it may, it is clear that an artery had been divided, whence the coagulum had been formed by the effusion of blood into the surrounding parts, which the blister had increased, as "the wound had almost healed" by adhesion. If it had been left to itself, absorption of the clot would most likely have taken place, otherwise suppuration; there would not, however, have been much danger of secondary hæmorrhage; but as the tumour was pulsating when Mr. B. was called, before the clot was removed, it was almost sure to have broken out again; and I should have expected that to have taken place as soon as the clot was removed.

Had pressure been then applied, it would have had a good chance of preventing the hæmorrhage; but after the bleeding had weakened the living powers, it was not likely to succeed.

The fibrin of the blood had, in a great degree, escaped by the bleeding, and the tonicity of the vessels would also be in a great measure destroyed; the only chance, therefore, of success was the tying of the artery; and as the bleeding vessel could not be got at, it is evident that the trunk of the vessel must, in that case, be tied at the nearest point to the wound, in order to be secure.

There is always danger of the parts supplied by a large artery

falling into a gangrenous state where the artery is tied, if there are no anastomosing branches to keep up the circulation; but as there were vessels here that would keep up the circulation, beside those of the skin, and which must, in this case, be much enlarged, there can be little or no danger; but as there will be some diminution of the natural heat, from the diminution of the quantity of blood, I would advise to keep the part rather warm than cold, by applying flannel bandages. Warm fomentations may also be required.

I think the cow is likely to recover. I have tied the tibial artery in a mare, which did well, and the metatarsal artery in a horse, with equal success; and why should not the cow recover? If secondary hæmorrhage does take place, certainly tie a vessel higher up, even the femoral.

As to the time required permanently to stop hæmorrhage by pressure, it depends on circumstances which are numerous, and on which I have not time to dilate; but I have found, by some experiments that I have made, that the pressure of a ligature on the femoral artery of a dog for twelve hours was sufficient to prevent bleeding. So much for your first query. The second and third are already answered. To the fourth, I would say, that nothing of importance ultimately is likely to result farther than depriving the part it supplies of sensation, and in some degree increasing the danger of gangrene, from the tying of the artery.

The common tonics will do, with a light full diet of boiled food; a little ale may be given if wine is thought too expensive. Let me know the sequel.

I am, my dear Sir,
Your's very truly.

Mr. Brotherton to Professor Dick.

Dear Sir,—According to your request, I send you the sequel of the case that formed the subject of my last communication; and I beg leave to thank you for your kindness and promptitude in answering the queries I made free to put to you.

The patient was, at that time, in a high state of constitutional fever, with the powers of nature so debilitated as to leave but little probability of overcoming it. As it was symptomatic, our first treatment, if practicable, would, no doubt, be "to remove the cause," then to allay the morbid action produced, and, lastly, to restore the deranged function. But as the part affected, causing the general nervous excitement, was in such a state as prevented us from fulfilling the former indication, we endeavoured

to palliate it, and to treat the symptoms, allaying the nervous irritability by narcotics, and supporting the animal in her depression mainly by what Mr. Percivall calls "real tonics, such as the granary or the field afford," with occasional draughts of ale, port wine, and the vegetable tonics.

For three weeks the pulse was rapid, varying from 90 to 100—respiration laborious—occasional rigors, with great want of power and energy about the general arterial circulation ; but still the functions of no organ were suspended, nor was there any great derangement. I fancy it was a good practical illustration of the difference betwixt organs labouring under the effects of irritation and those in an inflammatory state.

From the time of the operation up to this period (the third week) the foot and leg enlarged : from the coronet to the fetlock it became as thick as a man's hat ; and there was every characteristic both of external inflammation and of its extension to the deeper seated textures. Ulcers formed, both internally and externally, of a very indolent character ; and there was sloughing from skin, ligament, and tendon, with caries of the os pedis and the two coronary bones.

Fomentations and linseed poultices were applied during the highly inflammatory stage, and to the irritable ulcers, succeeded by an unhealthy suppuration, which in some degree assisted to lessen the part.

Knowing that the action, whether morbid or healthy, is, in the three last mentioned tissues, very slow, we anticipated much trouble in obtaining a healthy action, but by the frequent application of a strong solution of the chloride of lime to the ulcers of the soft parts, and of diluted muriatic acid to the hard ones, the parts were restored to a healthy process, and at length shewed a disposition to heal, which, in five weeks, they all did by granulation.

It may be as well to inform you, that the ligature fell off on the ninth day ; that there was no loss of the natural heat of the part, nor any apparent deficiency in the supply of blood to the foot, which we had opportunity of seeing, having frequently to remove the corneous secretion, which was abundant, particularly on the sole. Layer after layer of new horn made its appearance, the detached portions of which we kept removed by the drawing knife.

With regard to the place where the artery was first wounded, I can only say that we kept pressure applied for a few days, and on its removal found that the hæmorrhage was perfectly stopped ; but the part almost ulcerated through to the anterior part of the coronet betwixt the two pastern bones. We injected the chloride

lime, and it is now entirely healed. The foot is now little larger than the other, and the animal, though still lame, will soon be as sound as ever.

The patient was suspended in a sling, holding the affected foot up from the ground for six weeks, and every attention was paid to her by the owner, for which he was repaid in a singular manner. The cow, when at the worst, gave eight or nine quarts per diem of milk, gradually increasing in quantity to eighteen or nineteen as she became convalescent. From the length of time that the foot was held up, the muscles of the posterior hyo-femoral region, and some of the others (I suppose from want of action) were very much atrophied, but they have now almost regained their former bulk. Were I inclined, I might, in reviewing the case, make many other statements in connexion with it; but, as I think they would lack interest, I must refrain. One thing, however, I must say,—that from it I hope to derive many a valuable hint for the future; for this instance of recovery will shew me the necessity of perseverance, and of exercising hope and patience in the employment of those means which we possess to combat disease and its effect on the animal frame. No doubt nature has done much; at least she gifted the animal with a sound constitution, and we will only claim the honour of assisting her in her endeavours to restore from disease to health.

I have just now received a long three-sheet folio letter from Mr. ————. He mentions a case of ophthalmia (specific) cured by the cautery being applied to the frontal bones, after all other means had failed. This is a revival of the "old farriers' remedy." The best case is one of poisoning, from a mare eating meal and arsenic, which was placed under the manger to kill mice, &c. His treatment was, first, a large dose of sweet oil, and the albuminous part of a dozen eggs; next, a quantity of melted suet, prepared chalk ℥iij, milk 1 quart, lime-water and more oil, which proved successful.

We have lately had many cases of laryngitis, sometimes with bronchitis, and occasionally pleuritic symptoms. We have lost four cases, three of which had hydrothorax, with a curdy cheese-like matter contained in cellules or the substance of the lung, and coagulable masses floating in the contained fluid of the chest. The pleura appeared to be in a gangrenous state, and also the membrane lining the trachea. I think the symptoms of hydrothorax are not easily detected, as they vary so in different cases. The continued standing in one position, with extended neck and rattle in the trachea, with oppressed pulse and very fœtid breath, and discharge from nostrils, were the principal symptoms.

I see Mr. Percivall attributes the cure of three cases in the

June number of this year's VETERINARIAN to the administration of calomel; but we tried this drug in the three fatal cases without success.

The great quantity of flies this season have so irritated the skin of cattle, particularly on the fore extremities, as to cause great inflammation and sloughing, and people imagine here that it is a "distemper," being so prevalent.

I remain, my dear Sir,
Your's obediently.

ACCOUNT OF A HORSE SWALLOWING SPONGE.

By Mr. PHILIP FRY, *V.S., Great Torrington.*

SEEING in THE VETERINARIAN of last month a case of a horse having swallowed a piece of sponge, and you asking in your leading article "Have any of our readers met with a similar case?" I beg to send you the following one, if you deem it worthy of a place in your valuable Periodical.

On October the 25th, 1838, I was requested to see a horse belonging to Mr. James Thomas. He told me that the animal had swallowed a piece of sponge the night before, and that he appeared to be in great pain. Having never heard of such a case before, I rather doubted the fact of his swallowing the sponge. The reply of the owner was, that he was certain of it, as he had placed the sponge in the window himself the night before; and, to be doubly sure, had taken another piece and offered it to him, which he immediately seized, and it was with difficulty he could get it from him again.

I found the horse labouring under symptoms of spasmodic colic, such as I frequently meet with at that season of the year in horses belonging to small farmers, who keep them on straw and hay of the worst kind. I gave him a carminative draught and afterwards an oleaginous one, with aloes in solution, which appeared to relieve him; in fact, every symptom left him except a little dulness.

Attention having been paid to his diet, &c. he appeared to be going on well until Nov. 3d, when I was again sent for. On my arrival, I found him labouring under violent symptoms of spasmodic colic. I administered a carminative draught, which gave him considerable relief; but still there was a dulness, with occasional looking at his flanks, and pawing and stamping with his feet, therefore I afterwards gave him an oleaginous draught.

4th.—No fæces having passed, I gave another oleaginous draught, and threw up a clyster. At 3 P.M., the bowels not having responded, I administered another draught and injection, which had the desired effect: all unpleasant symptoms subsided, and the horse returned to his work in a few days. Not the least particle of the sponge could be detected in his fæces.

ON THE TREATMENT OF FARCY AND GLANDERS WITH IODINE AND THE SULPHATE OF COPPER—A CASE OF GLANDERS AT THE TERMINATION OF THE SPERMATIC CORD, AND THE REMOVAL OF AN ENORMOUS TUMOUR FROM THE SCROTUM.

By Mr. W. C. LORD, *F.R.P.S. and V.S., Parson's Town, King's County.*

Dear Sir,—I REGRET that I have allowed so long a time to elapse since I last contributed my mite to THE VETERINARIAN. If the following cases are worth insertion, they are at your disposal.

In the March Number of THE VETERINARIAN for 1842, the reader will find an account of the very great success that has attended Mr. Lord, of Doncaster, in the treatment of farcy by the diniodide of copper. I have also employed the iodine with considerable success in combination with the sulphate of copper. The very circumstance of our not materially differing will render the few cases I am about to relate more interesting, as they tend to prove that farcy, which has hitherto been thought rather a troublesome disease to overcome, may now be subdued by iodine and copper, either chemically or mechanically united. To many it may be of service to know, that the mechanical combination of it with the sulphate of copper will be as efficacious as the other, as they may not be able to procure the diniodide of copper at the time that a case presents itself: so it was with me when I got the case which I am about to describe.

When I first resolved to use the diniodide of copper I sent to one of the largest druggist's establishments in Dublin for it; but they told me that they had no such thing, yet if I would wait they would make it for me.

CASE I.

This case was a bad one, presenting large buds running from the head downward, along the neck and abdomen, in a straight line, and most numerous on the inside of the thighs. The side

of the face and lips were very much swollen—the coat staring—the animal dull, off its food, and very weak. As the owner prized the horse very much, and was anxious to have something done at once, I did not wait for the diniodide of copper, but wrote the following prescription on the 23d of July:—

℞ Hydriodat. potassæ ..... ℥ss
Cupri sulph. ..... ℥ij. M.
Divid. in chartulas sex quarum detur unam omni mane.

Food of the most nutritious kind was procured, and vetches and clover.

I also gave some iodine and mercurial ointment to be rubbed on a large indurated swelling that had formed on the near cheek.

As the owner lived some miles from me, I was not able to see my patient until the 30th, when I found considerable amendment—some of the buds having disappeared—the swelling on the face being gone, and the animal in good spirits and eating well. Other œdematous swellings, however, were forming in various parts, which very much frightened the owner, as his grooms were telling him that the horse had very bad water-farcy. However, I simply ordered hand-rubbing, and gave about ten more powders, which performed a perfect cure.

CASE II.

This was a common working horse, old, and out of condition, and the symptoms he exhibited were those of glanders and farcy, in my opinion, and also in that of two or three farriers in this part of the country, who all advised that he should be shot. I was the more, perhaps, disposed not to coincide with them in their opinion, and to be a little obstinate about the matter, when they told me that the discharge, which was from the left nostril, had only commenced three or four days previously, although I found the septum thickly studded with ulcers.

If I had only found this running from the ulcers, I should not have been so confident that it was glanders, for it yielded very speedily to my treatment. I remember, when at the Edinburgh Veterinary College, having seen (after distemper) ulcers on the septum nasi, which yielded to tonics; but in the case which I now relate, there were well-marked ramifications of farcy, and the owner told me that the horse had exhibited this appearance for some time before the running commenced. It was, therefore, evidently farcy, terminating in glanders.

What the treatment of the farriers had been I cannot say; but it was of very little service, and the swelled leg, covered with buds on the inside, the discharge from the nostril, and the buds

and ulcers, &c. on various parts of the body, made it as formidable a case as I had ever met with.

However, on the 12th of August, I made up a dozen and a half of powders—cupri sulph. cum hyd. potassæ—and ordered that one should be given every day, and that he should have as much clover and vetches as he could eat.

I neither saw nor heard any more of my patient until the 4th of September, when, to my utter astonishment, I saw the poor man coming into my yard, leading his horse, that was looking as well as ever; the ulcers in the nostrils, the discharge, and the buds having quite disappeared.

If any reader would wish to put any questions to me on the above case in THE VETERINARIAN, it would give me great pleasure to reply.

CASE III.

This was a pony, thirteen hands high, the property of a fishmonger in this town, who stated that he had lost three other horses affected precisely in the same way as this. My treatment was similar to that in the former cases, and in a fortnight she was, to all appearance, well. However, I ordered her not to be worked for a week. The man did not attend to my instructions, but took her out, and gave her a day's work, which brought back the disease in a worse form than before. This, of course, annoyed me, and the only way I could devise of getting my orders strictly attended to, was giving the medicine myself, and charging for every time I gave the balls. I found that this, as in many other cases, had immediately the desired effect.

I commenced again giving the same medicine, and in three weeks the animal was quite restored to health, and has continued so ever since. I should add, perhaps, that I touched the buds with the actual cautery.

GLANDERS ON THE END OF THE CORD.

We not unfrequently meet with a scirrhous enlargement of the end of the cord, which, if not speedily removed with the knife, will involve the whole of that substance. It would appear to me to arise from castration, and particularly if that operation has been performed with the cautery. One of the most remarkable phenomena connected with this enlargement is the slowness of its progression.

I remember having seen Professor Dick remove one of these tumours from the cord of a seven-year-old horse that had been castrated when four years old, and in the centre we found a scale

of iron, which had undoubtedly lodged there at the time he was castrated, and formed the nucleus of this disease. I think, as well as I can remember, that the tumour weighed three pounds and a half. The horse was hunted a couple of months afterwards.

In June in the present year, I was requested to examine a horse that the dealer described as having a large wart where his testicles ought to be, and that a farrier had been applying caustic to burn it away, but without success. The minute I looked at it I saw the nature of the disease, and, after making some inquiry, found that, although he was fourteen years old, he had only been castrated about three years previously, and that, since this time, there had been a slight discharge from the spot that had been occupied by the tumour. I then described to the gentleman the nature of the case, and told him that nothing but excision would be of any service.

I neither heard nor saw any more of the horse until the 24th of September, when the owner came into my yard and told me to do what I wished with him, as he was so bad that he could not pass his urine, which I found arose from the tumour pressing on the penis. I accordingly cast him, and found that it had a most enormous base, running downward and forward into the sheath, and upward along the cord to the external abdominal ring.

I first proceeded to turn back the skin by careful dissection, in order to form a flap to cover over the aperture and keep the air from the place occupied by the tumour, and then I cut down to its base, and, by the able assistance of his owner, Dr. Waters, succeeded in removing a diseased mass, weighing six pounds and a half.

The arteries being all well secured by ligature, and the flaps properly united by suture, the poor animal was released, of course, rather exhausted, but yet able to walk into the stable, after an operation of one hour and forty minutes. My after-treatment consisted in occasional laxatives and low diet.

He is now in excellent health, eating a feed of oats a day, and any other thing that a person will give him, as his appetite is capital, and he is in high spirits; but the wound is not yet healed. I must not forget to mention, that there was a great infiltration of urine into the cellular tissue of the abdomen, anterior to the sheath, a few days after the operation, and which I found necessary to open with the lancet.

A CASE OF GLANDERS IN A HUMAN BEING.

The following case of "Glanders in a Man," supposed to have been caused by the absorption of the glandered virus from a horse, is abstracted from the *Provincial Medical Journal* of September last. It was inserted by Mr. John L. Scarbrough, M.R.C.S., Sheldon, Devonshire. Should you think it worthy of insertion in your valuable journal (of which I have for several years been a constant reader), it would much oblige

A Veterinary Student.

"In the latter part of May I was requested to visit Andrew Foot, aged 36, of good constitution, and of rather spare habit of body. He told me that he had had for several days a very troublesome pain in the back part of his neck. On examination, I found a swelling (resembling a carbuncle), very hard, shining, somewhat œdematous at the sides, and black in the centre. I made some free incisions into it, ordered him to poultice it well, and gave him a little alterative medicine; and in a few days (June 3), the sore was quite healed.

"On the 6th he sent for me again. I found him labouring under severe pain in the head, with a hard pulse of 96 in the minute. I bled him to the amount of twenty-four ounces, gave him six grains of the hyd. submur. with ten grains of the ext. colocynth. comp., which acted very freely on his bowels: he then found himself very much relieved, but complained of pain in his foot.

"Being served with a subpœna to the Exeter assizes, I lost sight of him for four days. On my return I visited him again, and found him in bed with his foot very much swelled. He told me that he had been in so much pain that he was obliged to call in another medical man, who treated him for the gout—his foot had that appearance—however, in the course of two or three days the swelling appeared to have considerably lost it vitality, and became flabby, and when punctured, it discharged a quantity of sanious matter. Several pustular spots appeared on the body, face, &c.; his foot became gangrenous; the pulse low, hard, and irregular; there was severe pain in the head; the breathing difficult, with cough and rigors.

"The foot continued to present a bad appearance, surrounded by a high-coloured erysipelatous flush; wandering pains in the extremities; the pulse strong, and considerable thirst. The tongue became very tremulous, with considerable snuffling in the nose. The eyes and nose were very much tumefied. The snuffling very much increased, and the expectoration was mixed with pus-like matter, which appeared to have been principally discharged from the nares by the mouth, as he was not able, from debility, to

discharge it by the nose. There was also coma, with low, muttering delirium.

"The tongue became singularly tremulous, as also the upper extremities; the pulse fluttering and thread-like and involuntary discharges. The swelling of the head and face considerably increased, extending down to the throat; all which symptoms, after progressive aggravation, terminated in death. No post-mortem examination was allowed, but the body was in such a state as to oblige the friends to have it buried in a few days.

"The treatment was not conducted on any defined plan, but was varied according to circumstances, so as to meet the more urgent symptoms.

"P.S.—I could not discover any appearance of his having been inoculated; but having seen a glandered horse some time since, and thinking the above unfortunate case so much resembled that of this horse, I was induced to inquire of the owner whether there was any thing the matter with either of his horses, when he told me that one of them was laid up with a bad cold. On examining the animal, I found it had a profuse discharge from the nostrils, with the glands of the throat very much enlarged. It proved a decided case of glanders. The horse died in ten days afterwards."

This case is extracted verbatim, and I think is, in many points, interesting to the veterinarian and the public. I also believe, that had a qualified veterinary surgeon been called in in season (which I suppose was not the case), the poor fellow would not have fallen a victim to such a melancholy catastrophe, for he would then have been advised and cautioned as to the real nature of the animal's disease, from which, without doubt, he became affected.

THE EFFECT OF THE SECALE CORNUTUM IN PROTRACTED LABOUR.

By. Mr. J. Younghusband, *Greystoke.*

I send for insertion in your valuable periodical—the increasing interest of which I observe with pleasure as every month passes by—the following account of two cases of lingering parturition, in which the effects of the secale cornutum, in exciting uterine contraction, were strikingly exemplified.

CASE I.

In the spring of 1841, I was summoned to attend a cow that had been twelve hours in labour. On my arrival and examining the state of the animal, I found the parts well dilated, and a

plentiful supply of mucus; but the head of the fœtus was turned on one side, and only one fore foot made its appearance. As the pains at this time had nearly subsided, and the owner wished me to extract the fœtus by force, I thought it a favourable opportunity for a trial of the secale, and immediately prepared a dose of the same mixed with ale. Greatly to my satisfaction, in half an hour after the administration, I had the pleasure of seeing the pains renewed, and in a manner that called for my assistance. I introduced my hand, placed the head and foot in a right position, and in a few minutes brought away a dead fœtus.

CASE II.

This cow, which belonged to my own stock, was, according to reckoning, between six and seven weeks from her time of regular parturition, but had for a few days shewn evident signs of approaching miscarriage. I was, however, obliged to go from home on business, and was absent nearly sixteen hours. As soon as I got home I visited my patient, and found the parts sufficiently dilated, as I thought, to admit of a free passage to the fœtus, which I found was making a regular presentation; but it had not advanced far enough in the passage to admit of rendering any manual assistance.

Slight pains coming on at uncertain intervals, I again resolved on trying the power of the secale, and at the end of about twenty-five minutes from the period of giving the same, her pains became regular in time, and strong in force, and in a short time she was safely relieved from her burden, without any assistance from me.

The calf was very small, and apparently dead; but on my trying to inflate its lungs by blowing down the throat, it shewed evident signs of returning life, and in a few minutes was quite recovered. It is now six weeks old, and is a sprightly little animal. Both these cows cleansed in a short time, and needed no more than ordinary attendance.

A CASE OF GARGET OF THE UDDER.

By Mr. G. HARRISON, *V.S., Hinckley.*

I WAS called, on the 29th of last July, to visit a cow within three weeks of calving, in whose bag was inflammation of several days' standing. She had been twice bled by the owner to the extent of six quarts each time. Opening drinks had been administered, and

ointment applied that had been procured from a druggist. I found my patient labouring under symptomatic fever in consequence of this inflammation of the udder—the pulse was quick—the bowels were costive—the appetite diminished—the breathing laborious—and rumination suspended.

Detract blood to the amount of six quarts—apply hot fomentations to the bag—and give an opening drink.

30*th.*—Worse. The udder more swollen and painful. The bowels have not been acted upon. Continue the fomentations for four hours, then apply cataplasma farinæ lini et furfuris. Repeat the drink.

31*st.*—Rumination restored. The bowels are opened. The udder very hot. A large anasarcous tumour is formed anterior to the bag. I punctured it in several places, and a considerable quantity of serum escaped. I proposed lancing the bag, but the owner objected. Give the fever medicine, and continue the fomentations.

August 1*st.*—Much worse. The bag swollen enormously. She can with great difficulty move her hind legs on account of its size—the tumours extending around the outside, the thighs, and as high up as the vagina. The fever is increased. Rumination is again suspended. The pulse bounding. The fæces semifluid. I opened the tumour on the left side of the hind quarter. A great quantity of serum poured out in a full stream, (the owner remarked that it was a bad job to puncture, as there was no *matter*). Give tonic and fever medicine, gruel and bran mashes.

2*d.*—The discharge continues from the wound. The fever decreasing—the fæces soft—the appetite bad, but rumination somewhat restored—the animal very weak. Continue the tonic medicine.

3*d.*—The bag increased in magnitude, on account of the edges of the wound being united. On being re-opened the discharge re-commenced. I punctured the other quarter on the left side, and introduced a seton anterior to the mammæ. Fever on the increase — bowels constipated. Give the opening drench, and fever medicine.

4*th.*—Decidedly better. The bowels open. Fever on the decrease—appetite improving—the discharge from the udder profuse. Give the tonic medicine.

6*th.*—The patient convalescent—the discharge not so abundant. Continue the tonic medicine.

8*th.*—Still getting better; give a diuretic drench.

9*th* to the 17*th.*—Discharge exceedingly offensive, and large sloughs detaching. Wash the parts with the solution calcis. chlo-

rinat.; dress with ung. digestive; give the tonic medicine; and turn out to grass.

19*th.*—With a little assistance she produced a fine calf. No more sloughing—the granulations healthy—the discharge nearly stopped—going on well—the tonic medicine to be continued.

The last time I saw her she was completely cured—no deficiency in any of the quarters of the bag—yielding between two and three gallons of milk daily, and on the increase.

A CASE OF CONTUSED WOUND IN THE HORSE PENETRATING INTO THE ABDOMEN.

By M. U. Leblanc, *M.V., Paris.*

The animal that forms the subject of the following narrative was a seven-year-old horse, belonging to an omnibus called "The Favourite," and which, on account of his strength and good constitution, was named Hercules. On the 4th of February, 1831, a groom was leading him down the street, when the shaft of a cabriolet that was rapidly coming the contrary way struck him on the right flank, about two inches below the point of the haunch and the same distance from the transverse processes of the lumbar vertebræ. The shaft entered the parietes of the abdomen, and penetrated nearly a foot into the abdominal cavity, where it remained for a short time fixed in the wound.

Immediately on its being withdrawn the blood flowed abundantly, nor did it cease until a very strong compress of tow was applied, and kept on by a bandage round the body. I was sent for, and found him in the following state:—

His head was hanging down and supported on the edge of the manger; the ears, likewise, were pendent; the eyes were almost closed, and the fore legs stretched apart from each other. The skin was covered with an abundant and almost cold sweat. The respiration was irregular, and very much disturbed—the nostrils extremely dilated—the air expired rather hot—the pulse very quick, and so weak as often to be scarcely perceptible.

At each expiration there flowed from the wound in the flank either blood or a fluid highly tinged with blood, especially when the expiration was extended or prolonged. Whenever the abdominal cavity was compressed this flowed from the wound. I watched this flow of blood for nearly an hour, and the source

whence it proceeded did not appear to be in the slightest degree exhausted. It was evident that it filled the opening of the abdominal cavity to a level with the wound, and furnished the continued stream that was observed so long. There is no doubt that the circumflex artery and vein of the ilium were ruptured, since it is not possible to conceive that any small vessels could, in so short a time, have furnished the great quantity of blood which was shed, before, during, and after my visit.

The animal staggered, and almost fell, when the least attempt was made to move him.

The wound was very open, and, consequently, the air easily penetrated into the abdominal cavity. Its entry and emission were accompanied by a peculiar sound—a quivering whistle, like that caused by the air-hole of a pair of bellows. This effect was partly produced by the respiratory movements, and partly by the torn skin, which performed the office of an air-pipe.

Although, after what I had seen, there was no doubt that the wound communicated with the abdominal cavity, still, to make myself certain what was the actual extent of the injury, I introduced my fore-finger into the opening. By doing this, I felt the undulatory movements of the intestines; and found that the cavity of the abdomen was filled with a fluid to a level with the inferior edges of the wound; that the most distant part of the abdominal walls was lacerated like the skin; and that the principal direction of the wound was from without inwards, from before backwards, and from above below.

I saw no spouting of blood, nor any hæmorrhagic point which could enable me to discover what vessels were wounded.

My first care was to get as much fluid as possible out of the abdomen, by strongly compressing the parietes both on the right and left. I succeeded by these means in evacuating a tolerable quantity. Immediately afterwards I passed a suture between the opposite points, and to extremities of the thread were fixed two pledgets of tow. I then placed over the wound another very soft pledget, which I kept on by fastening it to the portions of thread which I had left above and below in forming the suture. All communication between the outward air and the abdominal cavity was thus entirely cut off.

The horse was allowed nothing but a little gruel until the following morning. Six injections of thin gruel were administered to him during the night.

At eight o'clock on the morning of the following day the animal was extremely weak; his head was always resting on the manger. He had not strength to stand upright, but leaned first on one side and then on the other, until he found something to rest

against. The halter often served to support him; and when he had succeeded in discovering this resting-place he used it for a long time. His limbs bent under him. The skin was moist and cold—the respiration quick, often prolonged, agitated and irregular—the nostrils dilated. The mucous membranes of the mouth, nose, and the eyes, which I now examined for the first time, were of a pale violet colour—the pulse was very quick, and scarcely perceptible.

The belly was more distended than when I had quitted my patient on the preceding evening. I attributed this to an augmentation of fluid in the abdomen, and that with the more reason, as the horse had dunged abundantly during the night.

I wished to make myself certain, and, accordingly, untied the thread which supported the middle and superior pledgets. The wound immediately opened, and about half a pint of a bloody fluid ran out, of a deep hue, and yet which scarcely coloured the fingers. It had the smell of blood which had begun to putrefy. This quantity of liquid was immediately replaced by the entrance of air into the abdomen, and the sound produced by the entry and emission of the air recommenced as on the former evening.

I tried to get rid of as much liquid as possible by pressing the abdominal parietes; but in spite of all my efforts a great quantity still remained in the abdominal cavity.

This state of the patient made me apprehend the worst consequences. That which gave me the most uneasiness was the presence of the air, and of a great quantity of liquid, already in a state of putrefaction, in the peritoneal cavity. The last circumstance appeared to me to be particularly dangerous; for I had frequently produced death by injecting into the abdomen or the chest blood had been taken some time from an animal, or which had begun to putrefy; and I had remarked that these accidents were always more serious and quicker when I suffered the air to penetrate while performing the injection, or when I had established even a momentary communication between the atmosphere and the cavity. I did not at all fear the influence of pure and living blood, such as that which flowed directly from a vessel in the abdominal cavity, and which had not been exposed to any putrefying cause, because experience had taught me that when I injected into the abdomen or chest considerable quantities of blood which, but an instant before, I had drawn from the jugular, I seldom caused any inconvenience, but the subject on which I tried the experiment seemed to digest this new species of aliment admirably.

I had, therefore, much reason to try to get rid either of the whole or of a part of the influences which I regarded as most dangerous; namely, first, the presence of putrefied fluid in the

abdomen; and, second, that of the air, which was much less dangerous.

Two means presented themselves for the attainment of the first, which were either to expel the fluid through the opening of the wound in the flank, or to make another opening lower down.

It might have been possible to execute the first means, either by placing the animal in such a position that the wound should be the lowest part of the abdominal cavity; or by sucking up the liquid through this opening with a pump. The first of these two methods appeared to me impracticable, for the animal would certainly have sunk under its execution: I therefore tried the second. I adapted the pipe of an injection syringe to another very long pipe of leather, and introduced it into the wound; but our efforts were almost useless. After a quarter of an hour's labour, I only had extricated about four ounces of a thick bloody liquid, of a very infectious odour. Almost every moment the pipe was obstructed by coagulations which were found in the belly, or by the intestines, which were drawn to its opening when we raised the piston of the pump. I also found that I should never succeed in getting the fluid out by these means, for a great quantity of it evidently occupied the abdominal cavity. The attempt would otherwise be fatal on account of the irritation which would necessarily be brought on by the continual contact of the tube with the organs; and because it was next to impossible to execute it without letting air into the abdomen, at least unless we had a very complicated apparatus.

The second means was therefore tried. I made an incision a little to the right of the umbilicus, and cautiously divided the whole thickness of the abdominal parietes. I then introduced into this opening, which was not more than a quarter of an inch in length, a tube that would just occupy the incision. There immediately flowed in a continued stream a small quantity of the fluid which I have described; but soon afterwards it came only drop by drop. I then changed the direction of the pipe, and the liquid escaped in a fresh stream for a few minutes; by thus varying the position of the pipe, which was sometimes impeded by the intestines, and using a little pressure occasionally on the parietes of the abdomen, I obtained the evacuation of about two pounds of fluid. I did not stop up the opening when I withdrew the catheter, and the fluid continued to escape in drops.

I made no attempt to get rid of the air which was in the superior region of the abdomen, but closed the wound in the flank with fresh pledgets, which I kept on by the threads which were already there.

The injections were continued; but the horse took no solid food, nor would he touch any during the whole of the day.

At noon, on the 6th of February, he was much in the same state, and could scarcely keep on his legs. The skin was cold, the mucous membranes pale, the pulse scarcely perceptible, the respiratory movements slightly prolonged and very much accelerated.

From time to time a few drops of scarcely coloured serous fluid flowed from the incision in the inferior part of the abdomen.

The horse had again dunged a great deal during the night, therefore we gave him two pints of warm gruel, which he drank with avidity.

The clysters were continued, and six pints of the gruel given in the course of the day.

7th.—The horse continued almost in the same state: the liquid which flowed was rather thicker, and rust-coloured. The same treatment continued.

8th.—The temperature of the skin was higher—the ears were alternately hot and cold—the mouth clammy, and the mucous membranes pale. The horse drank with avidity, but his pulse was greatly accelerated.

The appearance of the wound in the flank was the same, and from the inferior artificial opening a milky and inodorous fluid mixed with pus continued to flow.

I ordered clysters to be given frequently, and gruel sweetened with honey for drink.

9th.—The skin was not so hot as on the day before; the mouth was moister, and the belly, which for the last two days had been hard, now yielded to pressure. A great quantity of fluid resembling pus flowed from the opening in the belly; but, as on the preceding days, it only flowed drop by drop. The horse had dunged but little since yesterday, and his respiration was not so quick.

We did not give so many clysters, but we augmented the quantity of meal which we put in his drink.

From the 10th to the 13th a purulent liquid continued to flow from the inferior opening, which became more and more abundant.

The general state of the horse was improved—he looked round him when any one approached—he picked out all the bits of grass from the straw which composed his litter, and he drank every drop of the gruel that was given him.

The wound in the flank suppurated well. The swelling which had surrounded its edges was much diminished. I renewed the pledgets and brought the lips of the wound nearer together on

the 13th, for until then I had only cleaned that part of the integument to which the pus was attached.

14th.—We commenced giving him a small quantity of corn mixed with a mash, and ceased to administer the clysters. We also put a small quantity of good hay in his rack.

This regimen was continued until the 25th. The horse improved every day. He was evidently recovering his strength, and walked without tottering much. When he was moved the discharge of the fluid from the lower wound was abundant. It continued to be purulent, slightly clotted, and with very little smell.

26th.—The appearances were the same; we added a little more corn to the ration of the preceding days, and we very gradually augmented the water.

March 1st.—The bandage fell from the orifice in the flank; the wound, although it was still very deep, no longer communicated with the abdominal cavity, and was about the size of a two-franc piece, and suppurated a little. His food was somewhat increased.

From this time until the 29th of March a great quantity of purulent liquid flowed from the wound in the belly. The subcutaneous cellular tissue which surrounded the wound was infiltrated with this liquid, particularly towards the anterior part of the wound.

On the 4th of April, I opened two small tumours which were the result of the accumulation of the purulent liquid from the abdomen in the sub-cutaneous cellular tissue of the belly.

From this time until the 13th of April there was a constant flow of purulent fluid from the wound in the belly; but the quantity was daily diminishing. The wound in the flank was quite healed on the 14th.

On the 29th he was put entirely on dry meat, given in a moderate quantity.

The horse had at first become very thin, but he had now nearly recovered his condition.

He was dismissed from the infirmary on the 25th of May; and was put to gentle exercise. He returned to his ordinary work towards the commencement of June.

The wound in the belly did not heal until much later, some drops of liquid still continuing occasionally to flow even to the last days of May.

In summing up this case, it will be perceived that, in consequence of a contused wound that penetrated into the abdominal cavity, there was an abundant hemorrhage, a part of the blood flowing into the abdominal cavity: this blood mixed with the peritoneal serosity, and became altered in character. A very small

portion of this effusion was extracted by the pump; but another and the greater portion of it flowed through an artificial opening made in the inferior part of the abdomen. This being nearly evacuated, another fluid, of a purulent character, was secreted by a portion of the peritoneum that was the seat of chronic inflammation, and the serous membranes of which had assumed the character of those that are formed in cases of fistula. It is very probable that there existed many adhesions between the different peritoneal regions; for, in the course of the disease, the peritoneum must necessarily have been the seat of very great inflammation. I think that the success of this case is owing, in a great measure, to the abundant hemorrhage which took place immediately after the accident.

ON THE CONSIGNMENT OF SICK CATTLE TO THE BUTCHER.

By Mr. J. Horsburgh, *V.S., Dalkeith.*

On looking over the work on cattle in the 'Library of Useful Knowledge," I observed some remarks and advice on the treatment and distention of the rumen with food, that before have escaped my observation, and from which I beg to differ, especially as that book is in the hands of most veterinary surgeons, and not a few farmers, and deservedly held in high estimation as a book of reference; therefore, the paragraph to which I am about to allude may at times mislead.

In page 438, it is recommended, (after speaking of removing the contents by operation, in the preceding page) "that a beast that has been subjected to this operation, or, indeed, whose paunch has been distended to any considerable degree, should be prepared for the butcher as soon as possible, or sold immediately if in tolerable condition."

Now, if this operation is properly performed, there is no occasion for parting with, perhaps, a valuable animal for a trifle, under the idea of, "rather take little than lose all." I have had several opportunities of performing the operation, where the animal has been kept many years after, and in no case have I ever seen the least apparent bad result, either as to calving or feeding; indeed, I never hesitate to operate in these cases, whenever I can get the consent of the owner to such an apparently formidable operation; and there is very little fear of recovery, unless the operation has been delayed till all hope is past.

Cases of this kind may take place from simple distention of the muscular fibre (by the quantity of food taken in) beyond the power of contracting on the contents; and they may also occur from pieces of leather or other substances obstructing the passage through the second and third stomachs, independent of disease. I have frequently removed pins, needles, nails, halfpence, &c., and lately a number of pieces of thin sheet iron, well polished among sand, and the sole of an old shoe containing a number of large-headed nails worn by ploughmen.

Though aware that the operation is performed, I have never witnessed it, or examined a case in which it had been done by any person; and as it seems that the operation is performed by the opening being made in the flank, this may, perhaps, account for the results that follow, and warrant the advice given. As I have always made my incision farther up on the side, I beg to send you the following case, as the plan I generally adopt.

Nov. 1*st*, 1836.—I was sent for to attend a cow belonging to Mrs. Craig, of Prestonholm Mill. She had broken the fence of her pasture, and got into a field of turnips, of which she ate to complete distention. The stomach had been punctured, and she had had oil given before I was called, without any good result. As the danger did not seem immediate, I commenced my treatment by giving cathartic medicine with active stimulants twice in the day, and in considerable quantities, varying the kinds alternately for four days, without the least benefit. The cow was evidently sinking, when I obtained Mrs. C.'s consent (whose pet she was) to the operation.

I commenced by an incision through the integuments and muscles, at an equal distance between the ilium and last rib, and about two inches from the point of the transverse process of the lumbar vertebræ, and continued it downwards for nearly five inches, until the hand could be easily introduced; after which I opened the stomach to the same extent. In making the incision at this part, it will at once be seen that little of the contents can flow out, being occupied by the coarsest part of the food; also it ought in all cases, where practicable, to be done, the animal standing.

Before proceeding further, the stomach should be firmly secured to the sides of the wound by strong sutures, passed from within outwards through the stomach, muscles, and integuments, at distances of an inch; each of these sutures to be secured in such a way as to be easily unloosed, their ends being left long. The hand is then to be introduced, and the contents removed.

In the present case, four large horse pailsful of solid food were taken out, after which the fluid was removed by a sponge. The

hand was then passed into the wound from the left to the right side, through the first, second, and as far as possible into the third stomach; being as near as I could guess half through its hardened contents. The edges of the wound were next cleaned, and the ragged portions removed. The ends of the sutures were loosened one after another, and passed through the opposite sides of the wound, each of them held by an assistant, until as many as were necessary for bringing the edges of the wound properly together were inserted: the remainder are to be removed, and the sutures firmly tied, including in their hold the stomach, muscles, and integument, by which the incision into the stomach is closed, and at the same time firmly attached to the parts, entirely preventing any of the contents from being afterwards ejected into the cavity of the abdomen. An adhesive plaister is next to be placed with a bandage over the wound.

The future treatment must depend entirely on circumstances. In the present case, purging commenced on the next day. She had gruel and tonics. The wound healed. She was kept, and had calves, and was disposed of at the end of three years to the butcher, fat.

It is necessary to observe that the wound does not all heal by the first intention, part of it remaining open sometimes for a considerable period, respiration causing a quantity of the fluid contents to be ejected, and constantly to run down the side. This can be obviated by the application of a firing-iron, adapted to the shape and size of the wound, introduced at a red heat, so as to destroy the cicatrized edges: when it is again examined, it will be found considerably lessened. Two or three applications are sometimes necessary, after which the remaining opening can be finally closed by the budding-iron.

In selecting cases for operation it is not necessary to put the animal to the trouble, nor for the practitioner to lose his time, by passing the probang, examination by the side being quite sufficient at all times. If the stomach is inflated by gas, the animal will be restive, and pressure will give considerable pain, the stomach immediately regaining its form on the hand being withdrawn; whereas, in distention with solid food, the pit that is made by pressure with the fist will be found to continue in the stomach for a considerable time after the muscles and integuments have resumed their natural form. If the case has been of a few days' standing, it will also be found that the parts, on being pressed in, will adhere to the external coat of the stomach for a few seconds.

Very little dependence can be placed on clysters. In cattle practice (unless for the purpose of nutrition or fomentation) I con-

sider them useless. I have never found obstruction in any post-mortem examination; for, unlike the horse (in whose bowels obstructions of different kinds often occur, and may sometimes be removed both by the hand and by clyster), the obstructions in cattle always take place in the third stomach, very far beyond the place where the clyster can ever reach it. If these remarks are considered of any use, you may give them, for want at any time of better matter, some spare corner in THE VETERINARIAN.

I was led to the above remarks by being very much annoyed, and, I have no doubt many other practitioners have been placed in similar circumstances, by people selling cows when taken ill, and after a few days' treatment, even in cases where we have almost certain hopes of recovery. Edinburgh is quite at hand where a market can be found for half-cured, incurable, dying, or dead animals. How they manage to elude detection I cannot tell; but it is well known that a set of men are to be found carrying on such a practice, who will buy almost any thing in the shape of flesh; and some people having cows taken ill, and knowing that if they do not get better in two or three days they will probably be lost, are not often long in seeking other assistance, especially as no responsibility comes on them, even if it is detected by the authorities.

I do not mean to blame the paragraph in question for that. Perhaps not one person in a hundred ever saw or heard of the practice. It is entirely on the principle to take something rather than lose all.

THE VETERINARIAN, NOVEMBER 1, 1842.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

IN our Journal of the last month, we reviewed with much pleasure, not only the increase of valuable documents in our periodical, but the evident, although somewhat slow, progress of our art generally. We should next, had our space permitted, have looked at the proceedings of our brethren on the other side of the channel, and we should have found the records of the Clinical School at Alfort fearlessly and honourably laid before the profession. We noticed one circumstance most essentially connected with the improvement of the pupils. As each patient was brought

in, he was consigned to the care of a pupil, who, acting under the direction of the Clinical Professor, was responsible for the proper management of the case. There is something resembling this at the London Veterinary College, and that pupil is wise who will throw himself into the case that is committed to him, fully discharge the manual duties that are required of him, and keep a lengthened and faithful record of the nature, and management, and result of the affair. If these temporary clinical officers were more numerous, and scattered over different parts of the hospital, still greater good might be effected.

The case which was recorded was one of Anasarca, and a fearful case it was. Others connected with the same disease are promised.

To this succeeds a report of the distribution of prizes to veterinary surgeons who transmit any valuable communications to the Royal and Central School of Agriculture. Where, with the exception of the bequest of Professor Coleman, and the prizes awarded to meritorious pupils by the Association of Veterinary Surgeons, and also the prizes distributed by the Scottish Professor to his pupils, is there any thing worth contending for in either country?

I will not repeat the long and noble list of communications bearing on our art in France, and offered to the consideration of the members of our own body, and of agriculturists generally; but I will express the ardent wish of the greater part of our profession for the hastening of that period when the veterinary surgeon and the agriculturist will be better known to and valued by each other, and that the strange and injurious alienation which seems for the present so absurdly to subsist between some of them shall completely and for ever cease. Connected as the writer of this article has so long been with, by his profession, his studies, his writings, and his intimate knowledge of and perfect acquaintance with the habits, the wants, the interests, and the claims of both, he trusts that the time is not far distant when the unison which every heart must wish will take place between the agriculturist and the veterinarian.

Another subject, of a different nature, yet which concerns the interests of the farmer, is mooted in this number of THE VETE-

RINARIAN. Mr. Horsburgh complains of the author of the work on "Cattle" for having asserted that a beast that has been once subjected to the mechanical removal of an excessive and dangerous accumulation of food from the paunch, should, if it recovers from the operation, be prepared for the butcher as soon as possible.

That this should generally be the case I have always said and thought. The opening of the stomach in order, mechanically, to remove a quantity of food that threatens immediate suffocation, is a fearful operation. I truly said, that a stomach whose muscular fibres has been so much stretched as it necessarily must be, will not soon do its full duty again. When the incision is made into the paunch, and its edges are turned back and sewed to the integuments by many a stitch, and three or four buckets of ingesta are mechanically laded out, and afterwards the divided edges of the paunch are brought together again—is it possible that this can be effected without a small portion of the food falling into the belly; and, if it does so, will not inflammation be produced, and that sufficiently intense to be followed by death?

Mr. Horsburgh says that he has often performed this operation, and laded out the accumulated food, and no harm has followed. I concede all this: I concede that in the majority of cases he will be successful. But occasionally he will plainly and manifestly fail. In a great many cases inflammation unsuspected has been excited—is slowly progressing, and, after the lapse of some weeks or months, destroys its victim. Then am I not justified in saying, that when the paunch has been injured or much distended, the animal should be sold almost immediately, or prepared for the butcher as soon as possible. Is there any injustice, any cruelty in this. Generally speaking, much needless pain attends the continued existence of the animal.

Mr. Horsburgh says that he was led to these remarks "by people selling cows when taken ill, and after a few days' treatment." If I have a cow that has been ill two or three days, and I am not satisfied as to the state in which she seems to be, should I do wrong by having her destroyed while her flesh is good? Although I might not be able to get what had been her true value, yet "I take something rather than lose all."

The epidemic among cattle has been very prevalent here. One dairyman lost at least 100 cows, or, to tell the truth, his managing man had acquired the knack of distinguishing, with very few mistakes, the cows that would weather the storm from those that would either become worthless or die. Was there any thing wrong in his condemning some whose fate would otherwise have been sealed by the progress of the disease? In the early period of the epidemic, or, rather when it is preparing to develope itself, no deleterious quality has been communicated to the flesh of the animal.

I would unite most heartily with Mr. Horsburgh in severely punishing those who send "their half-cured, incurable, dying, or dead animals" to the market. I would allow the police to interfere where any thing of this kind was detected, or even suspected; but no blame is attributable to him who prevents the progress of the disease among his cattle by removing those who exhibit slight indications of approaching danger.

The questions of humanity or cruelty cannot be mooted here.

Y.

OBITUARY.

The very painful duty devolves on me to inform you of the death of my much respected friend and relative, Mr. John Henly, of Cheltenham. His general conduct and character during the time of his practice as a veterinary surgeon—a period of more than thirty years—commanded the respect and esteem of all classes. His professional acquirements were considerable, although never obtruded upon the public; and there was a kindness attending the disharge of his duty to his quadruped patients which did honour to his feelings. In his habits he was social, but prudent—alike kind and attentive to all; and his was one straightforward and undeviating course of propriety in his situation. He died on the 7th of October, aged fifty-two, after suffering for a few days from an attack of apoplexy.

Alexander Henderson.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

RODWAY'S PATENT HORSESHOE.

It has been our desire all along to defer giving any opinion of the production before us until sufficient time had been allowed to put it to trial in every way in our power; but, as with every thing new, it has prematurely got such a name with the public, and become such an engrossing topic of conversation and inquiry among veterinary and horse people, that we feel it a duty we owe to our good readers to give them some account of it—the best we can from the incomplete experience we have had—in the present number of our Journal.

It is now some years since public attention has been drawn to any novelty in the form or fashion of our horseshoes. In years gone by, we had inventions and discoveries enow to satisfy any thirst after innovation: the names of Moorcroft, Rotch, Coleman, Hodgson, Goodwin, and Percivall, as patentees of horseshoes, are still rife in the memories of many of us; to make no mention of inventors and discoverers in this line who, more humble in their pretensions and wiser in their generation, sought for no patent protection of their "discoveries." We say *wiser*, because we apprehend that patented horseshoes have turned out to their proprietors any thing but "winning games:" we have never yet heard of any person having made a fortune by a horseshoe; but we have known those who have lost by such a speculation, money, and labour, and time, to a greater amount than it would be either pleasant for them to recollect or for us to remind them of.

Most of the by-gone patents came into the world with strong pretensions to public notice: they were, quite in a formal manner, introduced by prospectuses, rich in promise, and holding out all sorts of advantages; nor can that by which Mr. Rodway has ushered in his production be said, in this respect, to be much, if any, behind those that have preceded it.

Mr. Rodway's patent consists in a horseshoe of the same form as the common shoe; but which, instead of being fullered in the ordinary way, has a groove—a "concavity," as he calls it—extending around it, through both heels, upon its ground-surface, about three-fourths of the breadth of which it occupies, the re-

maining fourth of the superficies being constituted of two round, prominent, semicircular rims, forming the outer and inner boundaries of the said groove. Through the concave flooring of this groove, as near as possible to the outer side of it, are punched, in the ordinary mode, and at the usual distances, the nail-holes, through which are to be driven, in the usual way, nails rather smaller than would be used with a common shoe of the like size.

The advantages of this, says Mr. Rodway in his prospectus, "over the old (or common) shoe are so self-evident and striking, *that every person possessing even the slightest knowledge of the subject, feels a conviction of its superiority the moment he beholds it! and this conviction will increase in proportion to the intelligence and reflective powers of the mind engaged upon it!* The great objection to the common shoe is its violation of the intentions and principles of Nature, in preventing the foot from taking that proper hold or grasp upon the earth which is necessary not only to the freedom and safety of its action, but also to the healthy condition of the parts concerned; *in raising the frog from the ground*, which is one of the most important organs for receiving pressure; acting as a wedge to prevent slipping, and giving steadiness to the movements of the horse; the frog is rendered comparatively inert and useless, therefore double work is thrown upon the crust or hoof, by which the whole mechanism of the foot is deranged,—and as 'no animal or any part of an animal can be preserved in a healthy state when the natural functions are perverted,' *it follows as a necessary consequence, that the present formation of the shoe is the fruitful source of lameness, slipping, and stumbling,—of disease to the animal, and often of death to the rider!*"

We remember the late Professor Coleman informing the members of the veterinary profession, in his printed circular to them, when he brought forth his patent frog-bar horseshoe, that his invention was "to prevent and relieve contracted feet, contracted frogs, flat soles, corns, sand-cracks, thrushes, canker, and quittor:" being somewhere about *all*, or nearly all, the evils the horse's foot "is heir to:" and though we were young at the time, and are far from young now, we have not forgotten the sensation of surprise the prospectus gave us on its first perusal, nor the one of ludicrous joy by which it was speedily followed, accompanied with the irresistible impulse to join echo with Dr. Eady, who about that day was in the height of his glory, and sing,

"Come, take my pills:
They'll cure all ills,
Past, present, and to come!!"

We perfectly agree with Mr. Rodway, that "the great objection to the common shoe is its violation of the intentions and principles of nature;" but he has neither hit upon what that "great objection" is, nor has he, in imitation of the way in which nature has accomplished it, given to the foot that "proper hold or grasp upon the earth" which he erroneously supposes to be the *great* objection to the common shoe." The ground-surface of the horse's foot, taking the frog away, represents a hollow hemisphere, or semi-oval, or, to use a familiar comparison, a sort of inverted oyster-shell: the wall or crust of the hoof slantingly projects on every side around the sole, so as to, as it were, clutch the earth, or rather embrace—or, to use Mr. Rodway's phrase, "hold or grasp"—the irregularities, the convexities everywhere met with upon the earth's surface. Is Mr. Rodway's shoe an imitation of the hemispherical concavity of the sole of the foot, or is it of the same form as the crust projecting beyond it? Is there any groove or "concavity" like that which Mr. Rodway has made in his shoe to be found upon the ground-surface of the horse's foot? If the answer to these queries be, No! why, then, it is evident enough that Mr. Rodway has not obtained his "*proper* hold or grasp upon the earth," by taking *Nature* as his guide. If he argues that his shoe is better than any shoe in regard to this property, then it becomes manifest he must have *improved upon Nature;* because there are shoes which resemble as near as shoes can do, Nature's tread itself.

Mr. Rodway has made a part of his "great objection to the common shoe," its "*raising the frog from the ground.*" This "bangs Banagher!" as they say in the sister island. Pray, how can a groove in the shoe have the effect of giving the frog pressure upon our hard roads? or upon stone or wood pavements? We are quite aware that the rimmed web of his shoe will sink into an impressible surface deeper than the plain web of a common shoe, and thus give the frog proportionably more pressure; but upon soft ground and turf the frog receives quite pressure enough with a common shoe; and oftener than not, I believe, more pressure than does it good; and therefore all the fine things Mr. Rodway has said concerning the advantages of frog pressure, such as "giving steadiness," "double work," "disease to the animal," and "death to the rider," can only, viewed through the plain glass of observation and practice, be regarded as so much

"Wandering from the good we aim at."

In the next paragraph of his prospectus Mr. Rodway informs us—"It is estimated that this formation increases the hold or purchase of the horse upon the ground, *at least ten fold!* more than

the common shoe; for not only is he enabled to clutch the earth with greater power by means of the double sides of the shoe, but as every part of the foot is brought nearer to the ground by means of the concavity (except when upon a perfectly unyielding surface), each part is assisted in taking its natural bearing, and all its functions are more effectually brought into operation, a fact which will be considered of the highest importance by those who are intimately acquainted with the 'nature, form, and texture of horses' feet,'—*thus the animal will use his limbs with increased confidence and safety,—thus contracted heels, thrush, inflammation of the coffin joint, splint, and spavin, will be less frequent,—thus pain will be prevented, disease avoided, money saved, and life preserved!*"

As travellers, by a sort of license recognisable by those who peruse their "travels," are allowed to "see strange things," so patentees, Mr. Rodway appears to imagine, have a right to colour up their representations in their own way, without regard to the impression such colouring may make upon the minds of those who are competent judges of the performances. What can he expect the feelings of veterinarians—of men who have some pretensions to medical science, to a knowledge of the anatomy and physiology of the horse's foot, and to the art of shoeing—to be, when he gravely tells them, that so simple an affair as the groove upon the surface of his shoe can augment the horse's "hold or purchase upon the ground *at least ten-fold* more than the common shoe?" and that, through the same, "*all the functions of the foot* are more effectually brought into operation?"—and that, in consequence, "the animal will *use his limbs* with increased confidence and safety?" and, thereby, "*contracted heels, thrush, inflammation of the coffin-joint, splint, and spavin*, will be less frequent?" and thus——We must stop here: there is no reasoning with a man who will make sweeping assertions like these. If our knowledge of the foot and of shoeing go for any thing, no horseshoe that ever was or ever will be invented can possess the properties which in this paragraph are ascribed to Mr. Rodway's.

"But the patent concave shoe possesses other advantages which in an eminent degree entitle it to public favour, and will, doubtless, cause it to supersede the common shoe; namely, it is not liable to be thrown, it is lighter, it will not require removing, and it will obviate in a great degree the objectionable necessity of *turning up* in winter. These facts will appear from the following considerations:—First, the shoe is prevented from being thrown by the nails being driven and countersunk in the concavity, which effectually protects them from wear, and causes them to endure as long as the shoe: this circumstance can only be duly

appreciated by sportsmen and travellers, who have experienced the inconvenience, vexation, and sometimes serious loss, which casting a shoe occasions. Secondly, by taking away the iron that would fill the concavity, it is of course lighter to that extent; and although the difference may not appear great, yet, when it is considered that this weight is lifted every time the horse moves his feet, it will be found to add very materially to the labour of a hard day's work. Thirdly, as the nails cannot become loose, *removing* will not be necessary, whereby expense will be saved, and the hoof preserved in better condition. Fourthly, the open heels of the shoe being pressed upon by the weight of the horse, naturally sink in or penetrate the substance trodden upon, and, by acting as hooks or wedges, enable the horse to tread with firmness and security upon wooden pavements, or *even upon roads partially covered with ice:* in addition to which, by bringing the foot nearer to the ground (as before observed), they assist in bringing into operation the organ intended by nature to prevent slipping, viz., the frog, instead of removing it more and more out of action, and thereby straining all the other parts of the foot, as is done by placing it upon spikes, or stilts, or calkins, according to the present clumsy and injurious practice of *turning up*."

If Mr. Rodway, by asserting that his shoe "is not liable to be thrown," means to imply that the common shoe is, we answer, that, providing the horse be shod in a workmanlike manner, this is not the fact. Who, we should like to know, loses shoes now-a-days, unless it be in the hunting-field? And there, so far as *suction* is concerned, we think, as was observed to us by a worthy baronet, a great sportsman, that Rodway's shoe might, from its groove, be *sucked* with more force in clay or soft ground than a plain shoe.

When horses are so shod that the heads of the nails project beyond the fullering, or (in the stamped shoe) beyond the holes—which, in either case, they never ought to do—there is no doubt but that the continual hammering of the foot down upon hard pavement or roads, or the stamping of a horse in the stable, drives up the nails, and often starts the clinches; and this effect Mr. Rodway's groove, by protecting the heads of the nails, certainly tends to prevent. Over improper or bad shoeing therefore, which, indeed, is but too frequent, here is an undeniable advantage.

Mr. Rodway's shoe is "lighter" than the common horseshoe by some two or three ounces; and therein consists another advantage. But, then, it will not wear so long as a common shoe; nor will it, when worn thin at the toe, as the common shoe will, admit of being steeled afresh; and for this reason,—that the

outer rim at the toe being worn completely away, there remains, in consequence of the intervention of the groove, no substance of iron to hold the fresh steeling.

Passing over what is said about "removing," as being placed in a sense so dubious as hardly to be tangible by us, and as a point of little importance here, we come to what, in our humble opinion, constitutes the main feature of Mr. Rodway's shoe, and that which, if any thing does, gives it a preference over the common shoe; viz., the prevention of slipping "upon wooden pavements, or even upon roads partially covered with ice." That a shoe with a broad deep groove in it, such as Mr. Rodway's, must prevent a horse slipping to the same degree that he would in shoes with plane and smooth surfaces, is too evident, we think, to admit of any question. We had no doubt, from the first, that the patent possessed this advantage over the plain shoe; and we find ourselves fully borne out in this opinion by the practical testimony of our friend Mr. Henderson, veterinary surgeon to Her Majesty the Queen Dowager, who has been driving about town with his horse shod in Rodway's shoes, and finds him decidedly safer upon wood pavements and slippery surfaces than he was in the shoes he wore before. What the operation of the groove may be upon "roads partially covered with ice," or how far the said groove may prove a substitute for what our patentee calls "the present clumsy and injurious practice of '*turning up*,'" we, until the frosty weather shall arrive, will not pretend to divine.

"As the concavity" (we quote from the prospectus) "forms an arch, Rodway's patent shoe is quite as strong as that now in use: it also occasions much less friction, and therefore is as durable; and will wear as long as any horse ought to remain without being re-shod."

Since no part of a horseshoe takes, directly, any bearing save that which is in contact with the hoof, and since this, in Mr. Rodway's shoe, is the outer rim alone, or but *half* of the arch of the concavity, it does not appear to us that Mr. R. can avail himself of the strength of the said arch.

In conclusion, we learn from the prospectus that the patent shoe "can be made by the same smiths who have made the common shoe, with little increase of trouble and expense." The "trouble" or labour, instead of being "increased," is greatly diminished. A clever fireman, with a boy to blow the bellows for him, will, single-handed—for he requires no striker—make his gross of shoes a-day. And as for the "expense," that is, we understand, but two shillings the cwt. more than that of common

bar-iron, before manufacture, which trifling addition will be greatly more than compensated for in the saving that will accrue from the little labour and workmanship demanded. Mr. Rodway's rolled and grooved bar-iron simply requires being cut into the proper lengths, which are, when heated, readily turned into the desired forms around the beak of the anvil; nought remaining save that they be cut at the heels and punched, and the shoes are made. In inexperienced hands the inner rim will be often found to *pucker* a little, perhaps, in turning: this by a tool—a sort of round iron ring—is easily rectified.

Mr. Rodway's bar-iron being bevelled upon the foot-surface, will, to the generality of feet, admit of shoes made from it being applied; the exceptions being pumice feet, or any approach thereto, to which it cannot be adapted. Neither is it suitable for thin, shelly, brittle crusted feet: indeed, the only way it can be applied in such cases is to punch the holes through the external rim, instead of through the concavity. The door-man, for nailing the patent shoes on, will require a hammer with a small or conical head: a common hammer will not strike the nails after they have entered the groove. Also, pincers with round blades and contracted biters will be wanted for withdrawing nails out of the concavity.

Having—so far as we can at present judge of it—stated our opinions on Mr. Rodway's Patent, and we trust, candidly and fairly done so, it becomes our duty to add, that, so far from being a new invention, it is but the counterpart of a very old one. Mr. Field has in his museum, at this present time, the identical original shoe; and that was made out of solid bar-iron, by means of a tool, by one of Mr. Field's men, *two-and-twenty years ago*. There is also in the same museum another shoe, similar to this, with *sharp* instead of round edges to the rims, which was many years ago worn in the vale of Aylesbury, as a hunting shoe. The existence of these *aborigines* do not, however, in the least influence our opinion of the present patent: should it be found on fresh trial to possess *but half* the good properties Mr. Rodway has ascribed to it, the time is not far distant when we shall be riding and driving about town, furiously and fearlessly, in spite of all the efforts the Wood-paving Companies are making to break our horses' knees and our own necks.

Diseases that never co-exist.

Some very interesting results have been obtained by Professor Rokitansky on the incompatibility of certain diseases with each other. From the earliest ages a vague idea has prevailed that two diseases could not co-exist in the system. This opinion was thus far modified by John Hunter, who says that "no two actions from two different morbid poisons can go on together at the same time in the same part or the same constitution." Later observations, while they have shewn this statement, as expressing a general law, to be erroneous, have at the same time indicated that certain diseases exert upon others an opposing influence, in the way of the one arresting the course, in modifying the nature, of the other. For example, measles and small-pox have been observed to suspend or modify the course of each other. Hooping-cough sometimes suspends the small-pox, measles, and scarlet fever. Hooping-cough is frequently cured by vaccination; it is sometimes also cured by small-pox and measles. Vaccinia may suspend, or in its turn be suspended by, scarlatina. The plague was arrested by the prevalence of small-pox, but broke out again on its disappearance, according to Baron Larrey.

But these and other isolated facts were never of a sufficiently definite character to attract much attention; and it remained for Professor Rokitansky, whose unequalled opportunities of observation and whose acknowledged accuracy create the most perfect confidence in his investigations, to put this matter wholly in a new light, by establishing, from an amount of cases that renders fallacy in the result almost impossible, that certain diseases never co-exist; as the presence of the one arrests the progress, or prevents the occurrence, of the other. The typhus abdominalis (that is, with formation of the characteristic typhous matter, and which by Rokitansky is always understood under the name of typhus) is excluded by the various forms of puerperal fever. In two hundred dissections of puerperal fever he did not find one complication of the typhous process. This immunity from typhus is given by the pregnant state, childbed, and even, though in a less degree, by suckling.

Typhus and cholera, and typhus and dysentery, are said to have the power of mutual exclusion; and the co-existence of tuberculous disease and typhus is extremely rare. Carcinoma and tuberculosis (i. e., tuberculous disease) are antagonist diseases; and the latter, and all kinds of serous cysts, are never met with simultaneously in the same organ, or even in the same individual. Tubercular disease affords an immunity from cholera, dysentery,

hypertrophy of the heart, curvature of the spine, dilated bronchia, and almost all chronic diseases of the stomach. Tuberculosis and aneurism do not co-exist; and Rokitansky, as well as others, has remarked, that the development of tubercle is arrested, although the disease is not subdued, by the pregnant state, as likewise by all large tumours of the abdomen. These conclusions are derived by Rokitansky from numerous post-mortem and other examinations; and although exceptions may occasionally occur, yet, if their main truth be established by subsequent researches, they may be rendered available in the history and treatment of various affections, and furnish a text for more extended inquiries for future pathologists.

Med. Chir. Rev., Oct. 1842.

Description of a powerful Check to Horses, invented by Mr. Miller, of Edinburgh.

To obtain an efficient restraint over the horse when startled, or otherwise excited into blind reckless speed, has long been a desideratum. Improvements have been made on the bit and the rein; but we need not say that an infuriated horse will break through all those restraints, even though under the guidance of a skilful hand; and with the less knowing adroit horseman it is all a forlorn hope in such circumstances. When we heard that Mr. Miller of Lothian-street, an intelligent and ingenious saddler in this city, professed to have devised a mode which would prevent even the strongest or wildest horse from escaping the controul of his rider or driver, we confess we were incredulous, as were Professor Dick, Mr. Wordsworth, and many gentlemen well qualified to judge of such matters. Mr. Miller, however, was no way discouraged by these doubts, for he had already practically tested his invention, and obtained a patent for it.

To put an end to all suspicions, the patentee made a public trial of his invention in Queen-street, and in presence of the two gentlemen named, and several individuals of approved horse knowledge. For this purpose a strong, active, hard-pulling, and notorious run-away horse was procured: indeed, the best proof of the qualifications of this animal for the trial in question was the fact, that a few weeks before it ran away with a gig, from which two well-known and respectable citizens were thrown, and very seriously injured.

This animal having been harnessed to a gig, Mr. Miller boldly took his seat, though several of his friends were trembling, more

for his personal safety than the success of the experiment. Mr. Miller then requested some of the company to irritate the animal, with which desire they reluctantly complied. Off set the horse; but he had scarcely made a few springs ere Mr. Miller at once subdued him, bringing him to a literal stand-still. This was repeated several times, every means being employed to provoke still farther the restive animal; but he was as often brought up by Mr. Miller, and apparently with the greatest facility. All present expressed themselves gratified and surprised, not more by the efficiency than the neatness and simplicity of the invention. The apparatus can, we understand, be obtained at a trifling cost, and can, besides, be used with any harness or riding bridle, without alteration.

Upon the vast utility of such an invention it would be almost superfluous to dwell, as the many and frightful accidents which yearly occur shew that this may be well described as a gift to humanity. We believe that it was the accident which happened to the Marchioness of Waterford that prompted Mr. Miller, who had long thought on the subject, to direct his serious attention to some remedy for this evil. After considerable study, he at length succeeded in devising this mode, for which he has obtained his patent. The principle of the invention consists in applying the check to the throat instead of the jaw-bone; but the apparatus is very ingeniously contrived, and has, in common with some of the most remarkable inventions, the inestimable merit of simplicity.

Cheap Food for Horses.

A proposition has been made to the French Minister of War, by a M. Longchamp, to try a new method of feeding horses, which, he asserts, will produce a vast saving in the amount of forage necessary for the army. This gentleman proposes to make a sort of bread, three-fourths potatoes and the rest oatmeal, with which the horses are to be fed in place of oats. The average quantity of oats for a horse per day, M. Longchamp estimates to be 10lb., costing about thirteen sous. He proposes to replace this food by 10lb. of the bread made with oats and potatoes, the price of which will be only five sous, leaving a saving of eight sous a-day. As there are 80,000 horses in the army, a saving would arise on the whole of the cavalry of 11,680,000 fr. a year. M. Longchamp considers this food to be more nutritious than the food generally given to horses, for a great portion of the oats taken by a horse are imperfectly masticated, and there-

fore the nutritive qualities are allowed to remain latent. Heat and moisture, he declares, are necessary to bring forth fully the qualities of the fecula of oats, and this can be procured most effectually by subjecting it to the heat of an oven, after having been moistened and well mixed up. Cakes of this kind have been long used in Holland with profit; and M. Longchamp expresses his surprise that potato-flour has not been more commonly and openly mixed with bread, bakers, he says, being in the habit of using it. But this is not the only advantage to be gained by this proposition. A hectare of oats (2½ acres) is worth about 92 fr., whilst one of potatoes produces 240 fr. M. Longchamp thinks that, if one-third of the land at present under cultivation for oats were planted with potatoes, five times a greater quantity of cattle could be bred in France. By this means butchers' meat would become cheaper, and be within the reach of the generality of the inhabitants of the kingdom.

Ergot of Rye.

This is one of the most active substances used in the obstetrical art, and has been the object of recent researches on the part of M. Bonjean, of Chambiry. He has determined by numerous experiments, 1st, that the ergot gathered on the first day of its formation has not the poisonous properties which it has when taken on the sixth day; 2d, that a heat of 212 Far., produces the same effect as gathering it too early; and, 3d, that fermentation deprives it of its properties. These circumstances serve to explain the want of success which sometimes attends its administration.

M. Bonjean has discovered in it two active principles:—

1st, The oil of ergot, of a uniform consistence—a yellow colour, an acrid flavour, and possessing poisonous properties in a high degree.

2d, The aqueous extract is obtained by treating it with water, either deprived of its oil or not, of a brown colour, a thick consistence, and a musty smell.

It is soluble in water, and can be formed into mixtures, syrups, pills, &c. It possesses decided anti-hemorrhagic properties. It exerts a specific influence on the uterus, occasioning a contraction of that organ.

Pharmaceutical Journal, Jan. 1842, p. 334.

On Iodine in Cases of Goitre.

Mr. Beesley, of Banbury, describes an efficacious mode of applying the iodide of potassium, and not liable to that reduction of the iodine which often renders the ointment of the iodide of potassium objectionable.

The following is the mode of preparing it:—Dissolve by a gentle heat ʒvi or ʒvij of white soap in ℥ij of proof spirit, add to it while yet warm ʒiiij of iodide of potassium, dissolved in the same quantity of spirit, and let it cool slowly in wide-mouthed phials well corked.

Pharmaceutical Journal, Feb. 1842, p. 416.

To Shoe or not to Shoe?—that is the Question.

Guildhall.—William Pepper, a journeyman farrier, was brought before Sir Claudius Hunter, charged with refusing to do some work when directed by his employer.

Mr. H. of Upper Thames Street, stated that the prisoner was one of his journeymen, and he had given him into custody for refusing to shoe some horses. This work he was able to do well; but he insisted upon being set to make shoes, a work in which he did not succeed so well. Complainant peremptorily ordered him to shoe some horses, and the prisoner as sturdily refused, grossly abused him, and shook his fist in complainant's face.

Complainant told him if he would not do what he ordered him, he would give him into custody, which he was obliged to do.

Sir Claudius said, if the man would not shoe a horse, there was no law to compel him.

Mr. H. replied, as a weekly servant, he was bound to do what he was bid, and could not pick his work. The prisoner was not to be man and master too.

Sir Claudius said, if his man would not obey his orders, the remedy was to discharge him. There were plenty of farriers to be found in this great town. A magistrate could not punish for the refusal to obey directions.

Mr. Higgs said good hands were scarce, though bunglers, who would fill his shop with lame horses, were plentiful. It was idle to talk of discharging men when there was a shopful of horses to be shod. If a man might do what sort of work he pleased, the master became a cypher, whose only duty was to pay their wages on the Saturday night.

Sir Claudius asked him to point out by what law the man could be punished.

The prisoner said that it was a custom in the trade to make shoes one day and shoe horses the next. He claimed to work according to the custom.

Mr. Higgs said it was nonsense for men to dictate in this way to their masters. He did not want more shoes, but he did want some horses shod. If Sir Claudius would become a master farrier, he would find things wanted to be put straight.

The question of assault was then entered into, and

Sir Claudius finding the master had talked of beating the man, thought that the bad language and menace of the workman were provoked, and dismissed the case.

Ancient Prices.

In Wilkin's *Leges Saxon*, as quoted by Dr. Henry, we have prices of various articles in England in the reign of Ethelred, about the year 997, which the learned doctor calculated with great correctness in money of the present time:—Price of a man or slave, £2 16*s.* 3*d.*; a horse, £1 15*s.* 2*d.*; a mare or colt, £1 3*s.* 5*d.*; an ass or mule, 14*s.* 1*d*; an ox, 7*s.* 0½*d.*; a cow, 6*s.* 2*d.*; a swine, 1*s.* 10½*d.*; a sheep, 1*s.* 2*d.*; a goat, 4½*d.*

Medical Lecturers.

[The following description of the portraits of the Medical Lecturers of London, by Dr. James Johnson, is unique. We do hope that the sketching is far from being accurate—at least our elder brethren deserve a better reward of their labours. How is it with our veterinary brethren?]

"The uninitiated might suppose that the lecturers, as a class, were fat monopolists, gorged with fees, and accumulating fortunes. To those who know *the facts*, this is truly laughable. Such are the expenses, that some get *nothing*, many get *next to nothing*, most get *very little*, and *very few* receive what can be considered a *fair recompense*. As for the bulk of the lecturers, one has only to *look* at them to laugh at the idea of their being rich. They are lean *hungry-looking chaps*, with high cheek bones, *white* complexions, and somewhat *rusty* coats."

Med. Chir. Rev., Oct. 1812.

The Epidemic among Cattle in Egypt.

In *The Times* paper of Oct. 27, it is stated, that in Lower Egypt the disease among the oxen has caused dreadful losses, 84,000 of these animals having perished throughout Egypt. The Pacha had in consequence been obliged to send three regiments of artillery, with their horses, to his farms, in order to assist in tilling the ground. He had also imported a number of horses from Tarsus, which were conveyed by two frigates to Alexandria, and were intended for the same destination.

Murderous Work among Horses.

A farmer of Everton, near Retford, some years ago had eight horses taken dreadfully ill, and from the symptoms it was conjectured that poison had been administered to them. A veterinary surgeon was sent for; but he had not been long on the premises before his horse was taken ill also. This additional circumstance led to a minute investigation of the matter; when it was found that the horses had been eating boiled linseed that had been cooked in a pot in which a solution of arsenic had been boiled many months before, in making a preparation for dipping lambs. Every remedy that skill could suggest was administered, but without effect: the whole eight died during the day, and the horse belonging to the veterinary surgeon soon afterwards.

Lincoln Mercury.

A Tumour of Twelve Pounds Weight successfully removed from a Sow's Teat.

Mr. Brown, butcher of this town, has a sow who ever since she farrowed some six months ago has had a tumour growing on one of her teats, which, notwithstanding every effort made to arrest its progress, still kept increasing in size, to the manifest danger of the poor animal's life, and it was deemed altogether valueless. Its owner, however, determined to save its life if possible, consulted Mr. Veal, a cattle doctor, residing at Linton, near Leominster, who declared that an operation for the removal of the tumour was practicable, and on Friday last it was removed, and found to weigh upwards of twelve pounds. Since the operation the animal has appeared much easier than before, and seems very likely to recover.

Worcester Chronicle.

THE

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THE INTRODUCTORY LECTURE OF PROFESSOR SIMONDS ON THE DISEASES OF CATTLE, SHEEP, SWINE, AND DOGS.

Gentlemen,—TO appear before you in the capacity of an instructor, and that, too, in a division of veterinary science hitherto occupying but little of the attention of the teachers in this Institution, may well excite in my mind considerable apprehension, that all which is anticipated from me may not be realized. I have to regret that this division of our art—the pathology of cattle, sheep, and other domesticated animals—has been thought by some altogether unworthy of the pursuit of the man of education; but, at the same time, it affords me much pleasure to be able to state, that others have expressly devoted their time, and laboured to prove that which must now be admitted, namely, the great injustice done to the agricultural community, and the immense loss annually sustained by the country in consequence of the veterinary pupil being so little impressed with the importance of the subject during his scholastic studies. Quacks and empirics were encouraged by this strange neglect, while men of science and education were prevented from directing their attention to the alleviation of the diseases and sufferings of the lower animals, save and except that one which, by the possession of great powers, endurance, and docility, adds, I am free to confess, more to our luxuries and advantages than any other which an all-wise and ever-bountiful Providence has, in his inestimable wisdom and goodness, thought right to give for the use of man. But, gentlemen, noble as is the horse, valuable as are his services, and however much individually or nationally we are indebted to him for our wealth, our influence, or our importance, these can offer no valid reason why the rest of our domesticated animals are not to receive our fostering care and protection as well in sickness as in health. Whether I succeed or not in placing this branch of

veterinary science upon its true and proper basis, I feel satisfied that I shall have no cause to regret the attempt: but it must be borne in mind by you, that I am no practised teacher. Up to the present moment, never have I ventured to address an audience as a lecturer; and I can, in truth, assure you, that nothing less than a sense of duty and devotion to the interests and onward progress of our common profession could have induced me to place myself in the situation I now occupy. If I fail I shall still have the satisfaction of feeling that I have endeavoured to perform my duty in a noble cause.

With these few preliminary remarks I throw myself on your consideration; and I ask you kindly to give me your attention while I attempt to enter more fully into this subject, which needs no laboured efforts to prove its importance. As illustrative of this assertion, I would direct your notice to a fact which many, I fear, would fain smother. That, notwithstanding the immense value of our horses, it falls far short of that of our cattle. Mr. Youatt, an authority to whom I shall have occasion frequently to refer you, states, in the introduction of his excellent work on Cattle, "that if an ox is not individually so valuable as a horse, yet, in the aggregate, cattle constitute a much greater proportion of the wealth of the country; for, although Great Britain contains a million and a half of horses, she has to boast of more than eight millions of cattle, unrivalled in the world!" These are not speculative opinions, but deductions drawn, I may venture to say, from statistical facts.

Is it not, then, matter of great surprise, that so long a time has been allowed to elapse, and so few efforts made to preserve and to secure the possession of so much wealth; that men calling themselves Englishmen, ever jealous of their rights and liberties, should have been found opposing with all their energies any reform in the education of the veterinary pupil, which would have tended to the preservation of one of Britain's bulwarks, identified as it is with our agricultural prosperity, and with the comforts and the continuance of life? If, in a pecuniary point of view, we have been so regardless of our interests, it must be matter of even greater surprise, that the finer feelings of our nature, or that principle which we all boast of being endowed with, namely, humanity—those sentiments which ennoble man—should not have forced upon us the necessity of exercising all our energies and our talents to alleviate the sufferings of animals unable to express by words the pain they are enduring: animals which it pleased God in the beginning to create for our use, over which he gave us dominion, but, at the same time, placed them under our protection and our care. What said your talented preceptor, and my es-

teemed friend and colleague, Professor Spooner, in the introductory address delivered at the opening of the last session, and which, placed as I now am, I hesitate not to say, that all who heard it derived much and valued information from? "I would fain hope (said he) that the period will shortly arrive when, by the force of knowledge, the grand truth will be deeply impressed upon the mind of every man, that it is his duty to

> "Cast round the world an equal eye,
> And feel for all that live."

This, I regret to state, we have sadly neglected; and as members of a liberal profession, following the healing art, our negligence and inattention are the more blameable. Let us, then, for the future take for our motto, "Science and Humanity," and as our text "All are but parts of one stupenduous whole."

The inquiry that first arises in the mind is, How are the objects in view to be obtained? how is that which our common sense dictates, and common feeling tells us is most desirable, how is this to be achieved? It is answered, by the application of the same principles which have proved to be so effectual in redeeming a once no less degraded branch of veterinary medicine—I mean equine pathology. When we pass in review the formation and structure of animals, we perceive that there is a thread which runs throughout and binds the whole together. Similarity of structure we find in most cases to be connected with similarity of function, and any deviation from that which may be designated normal will consequently be productive of like or similar consequences; nevertheless, each animal may be said to be more susceptible of certain diseases than others; *differences also occur in the attack of disease upon the same organs in different animals;* and these it will be my duty to point out, but, speaking generally, the same principles are applicable in treating diseases, whether existing in the highest animal of creation, *man*, or the lowest reduced to subjection by him and made subservient to his use.

I will now proceed to consider the class and order that each of our patients holds with reference to zoological arrangement; but prior to so doing, I wish to remark, that it is my intention and desire to render this course of Lectures as efficient as possible, considering the position in which I am placed, for the way is yet almost untrodden. I shall, therefore, have to track out a new path; yet, by perseverance, any opposing difficulties that may present themselves will, I hope, be surmounted; and as it is with our ordinary walk in life, so with this, the longer we walk therein the smoother and pleasanter will it become.

The plan I purpose adopting is, to consider the separate affec-

tions of our patients under the separate systems they are found to attack, such as the digestive, the respiratory, the circulatory, &c. The observations it will be my duty to make to you will have reference, in this my first course, principally to cattle; but, when speaking of any one of their diseases, your attention will be directed to the same affection should it be known to exist either in the sheep, the pig, or the dog. The diseases to which any of these animals are apparently more especially exposed—such for instance as rot in sheep, distemper in dogs, scrofula in pigs—will form subject matter for our consideration, separately and distinctly from the plan which I purpose to pursue.

Animals have been divided by zoologists into classes, orders, families, genera, &c. Those of which I shall have to speak are comprised in that grand division called Vertebrata, by which term we understand that the brain is inclosed in a bony case, the skull or cranium; and that a prolongation of it, called the spinal marrow, is continued through and protected by the bones forming the vertebræ of the neck, back, loins, &c. They likewise all belong to the class mammalia, that is, they possess mammæ or teats for the purpose of suckling their young. This division and class it will be seen must comprise a very considerable number of animals differing in their habits, their characters, the nature of their food, or their use to man.

For the purpose of still more simplifying and more perfectly arranging the great variety of animals abounding on the earth, whether domesticated and rendered serviceable to us, or still enjoying all their native freedom, it is necessary that subdivisions to a much greater extent should be made. These are effected with reference either to their feet, their teeth, the internal arrangements of their digestive organs, or many other varieties of organization, but of which it is now unnecessary for me to speak: I therefore shall at once proceed to give the zoological position of each of our patients.

You will not have forgotten that all of them are included in the division and class of which I have spoken, namely, the division vertebrata, the class mammalia. The ox, according to Cuvier, belongs to the order ruminantia, implying that it ruminates or chews its cud or food a second time, and has incisor teeth only in its lower jaw, opposed to a hard cushion or pad in the upper jaw;—the tribe bovidæ;—the genus bos;—and the sub-genus bos taurus, or domesticated ox.

The sheep likewise belongs to the order ruminantia, but its structure and habits prevent its agreeing in description to a farther extent with the ox: the tribe to which it belongs is the capridæ, the genus ovis, and the sub-genus or variety ovis aries.

The dog, upon whose usefulness and fidelity many a volume has been written, and still much remains to be told; he, who of all animated nature it has been said is the only true friend to man, "The last to desert, the first to defend"—he occupies a far different place in the orders and tribes or families of animals from either of those I have just mentioned, but belongs to the same division and class,—the order carnivora, and the section of the order digitigrade; meaning that he walks upon the points of the toes, and not upon the soles of the feet;—the genus canis, and the sub-genus canis domesticus.

The pig, the last animal to which I shall have to direct your attention, is placed in the order pachydermata and the genus sus. Having disposed of this part of my subject, I shall proceed to narrate to you the history of cattle medicine in this country; and here I fear that we shall find little to instruct, however much we may be amused by the opinions held by our predecessors in the practice of this art.

It does not appear that Blundeville—one of our oldest veterinary authors, who lived in the reign of Queen Elizabeth, and wrote a work entitled "The Four Chiefest Offices belonging to Horsemanship"—entertained any wish to encourage a cultivation of a knowledge of the diseases of cattle and sheep, as his book is entirely confined to a consideration of those of horses. The same remark will apply to the labours of another author, who flourished at about this period, but whose work seems not to be so well known as that of Blundeville. It is from the pen of Nicholas Morgan, and has a large proportion of its pages taken up in giving directions for the cure of the maladies of horses. It bears the date of 1609, and is called "The Perfection of Horsemanship."

The first book in which (so far as my researches have gone) I find any allusion to the diseases of cattle, is the Art of Husbandry, bearing date 1631, by Captain Gervase Markham. I trust you will excuse the introduction of what may appear a little foreign to our present subject, if I dwell for a moment upon the productions of this well known writer; and I am the more desirous of doing this, because it has been said, by almost all our writers on the history of veterinary medicine in this country, that Gervase Markham was a very voluminous and verbose writer, who flourished at the latter part of the seventeenth century, and whose works are merely a copy of those, such as Blundeville, &c., who had gone before him. This, upon examination, I believe we shall find not to be strictly correct.

I was induced to look into this matter, from observing that, in the title-page of the work which I have mentioned, the author

styles himself *Captain* Gervase Markham: the result of my investigation is that Gervase Markham is the same person—that he was a contemporary with Blundeville, and published two books, both prior to those of Blundeville. The first, a Treatise on Horsemanship, I have not yet been able to meet with; but reference is made to it in his second work. It was printed about the year 1593, when, as he informs us, his experience was but youngly fortified. Fourteen years after this period, namely, in 1607, and two years before Blundeville's work, Markham's Cavelarice appeared, dedicated to Prince Henry, the eldest son of James the First. It is divided into eight parts, the sixth of which treats of the diseases of horses, with their cure.

His publication, called "the Faithful Farrier," bears the date of 1630; and in the following year appeared the work to which I have alluded, as being the first I have yet found to treat of the maladies of cattle.

In the preface to his "Faithful Farrier," we are informed that "he is getting old, and that he yielded to the advice of friends to put it in print; and that he was the more willing to do so, fearing that after his death his then 'fatherless child' might get a new name." I am very much disposed to think something like this did take place; and that, even in these days, bookmakers and booksellers knew well how to profit by other men's labours; and that "Markham's Master-piece," which went through no less than twenty-one editions, the last of which is dated 1732, is nothing more than a compilation from his and other authors, published as a posthumous work. These remarks apply to all other books bearing his name, and which were ushered into the world after the year 1640. Hence, should I not be quite correct in supposing his Master-piece to be a posthumous work, this much is certain, that only one edition was printed before his death, and this must have been about 1640.

I shall now proceed to take a little more notice of the "Art of Husbandry." Our old author has been honest enough to tell us that it is a translation from the Italian, and was first written by Conrade Heresbatch, a learned nobleman, and translated by Barnaby Googe, Esq. I select an extract from its pages descriptive of the proper form and make of the bullock:—"Though some bullocks are chosen for their strength, some for the greatness of their body, yet the best commonly have these properties;—large well-knit and sound limbs; a long, a large, and a deep-sided body; white horned, broad forehead, great eyed, and blacke; his eares rough and hairy; his jaws to be large and wide; his lips blackish; his neck well brawned and thick; his dewlappe large, hanging down from his neck to his knees; his

shoulders broad, his hide not hard or stubborn in feeling; his belly deep; his legs well set, full of sinewes, and straight, rather short than long, the better to sustain the weight of his body; his knees straight and great; his feet one farre from the other, not broad or turning in, but easily spreading; the hair of all his body thick and short; his tail long and leg-haired." Such, Gentlemen, is his opinion upon exterior conformation as constituting perfection of shape: at the present day we should look for other points, and reject many an ox did he only possess the qualities above described.

If I introduce another extract, shewing the views entertained of disease and its treatment, I shall probably be excused. Speaking of fever, we are gravely told, "If they have the feaver or ague, you will perceive it by the watering of their eyes, the heaviness of their head, the driveling at the mouth, beating at the veines, and heat of the body. Let them fast one day: on the next day let them blood a little, betimes in the morning, in the tail; after an hour give them thirty little stalks of colewarts sod in oyle, water and salt, which must be poured fasting into them five days together."

The next work that I shall notice is one written by Leonard Mascal, Chief Farrier to King James. "It is valuable, as distincly shewing us that in those times persons holding such situations did not fail to extend the knowledge of the age to other animals beside the horse; and had such a spirit continued to have actuated the leading members of the profession to the present time, we should not have had to deplore the present degraded state of veterinary science in its application to the diseases of cattle. The manner in which our author has introduced the subject to his readers bears so forcibly upon the importance of a knowledge of this, that I cannot resist the temptation to give it you.

"Thou, husbandman, that fain wouldst know
Some remedies to find
How for to help the sickly beast,
To satisfy thy mind,—
Here mayst thou learn plenty thereof,
Thou needst not farther go,
But herein search, and there shall find
Such helps to help their woe.
And when thou wouldst fain cattle keep
For to maintain the stock,
Then must thou learn as well the helps
As to increase thy flock;
For if thou seekest first the beast
And knowest not how to use him
When he fall sick, always thou art
In danger for to lose him.

For want of knowledge and good skill
Oftimes it may so fall
A man that is full rich in beasts
He may soon lose them all;
Therefore in this I counsel thee,—
Seek first to help disease;
As great a praise to him that saves
As he that can increase."

A few years after the publication of Mascal's work we find it to be reviewed, corrected, and republished with additions by Richard Ruscan.

The remaining portion of the 17th century produced but few writers, either original or otherwise, upon this subject; however, there is one abounding with ignorant and foolish receipts, which seems to have been, like Markham's masterpiece, a source of much profit to the booksellers, as it passed through several editions, extending over a period of no less than a hundred years. The original was published in 1683, by James Lambert, a practitioner of thirty-five years' standing.

We may safely leave without notice all those who wrote upon the diseases of cattle from this period to the year 1714, when this country was visited by one of the most destructive epizootics of which we have any record. The term applied to the infection was murrain; and although it is not my intention in this introductory address to go fully into the history of the visitation, still I consider it right to give you a few particulars connected with its appearance, and the sad effects which followed its introduction. The term murrain is one of very ancient date, being frequently met with in the Pentateuch of Moses, and other parts of Holy Writ. Thus we read in Exodus, chap. 9, that, amongst the plagues which the Lord God visited upon Egypt as a punishment of Pharoah in disobedience of his commands in detaining the children of Israel, was *murrain*: "Behold, the hand of the Lord is upon thy *cattle* which is in the field; upon the horses, upon the asses, upon the camels, upon the *oxen*, and upon the *sheep*, there shall be a grievous murrain." This event may be placed nearly as far back as 1600 years before Christ.

We find, in perusing the records left us of these epizootics, that from time to time both Greece and Rome were visited by similar malignant diseases, nor were their destructive effects confined to cattle. Plutarch informs us that in the days of Romulus a great plague, after destroying the fruits of the earth and the cattle, swept off many of the Romans; and Livy relates that, in the year 355 of the Roman era, there was such a plague over all sorts of animals that, neither the cause nor the cure being discovered, processions, offerings, and supplications were made in Rome, dur-

ing eight days, to the pagan gods, to appease their wrath and avert the disease.

It will be needless for me to follow the spread of this disease, or to narrate to you the various times at which different parts of the continent of Europe suffered from such contagious affections, —that which more immediately concerns us is its appearance in Great Britain.

Of its first introduction we have no very clear account left; but the second time this country was visited, it is said to have been either brought from Holland in 1745, by two white calves imported by a farmer near London, or by a tanner who had purchased some condemned hides in Zealand: however, one thing is certain, that its destructive effects were severely felt here, and hundreds of our cattle fell victims to its malignancy. I am of opinion, that had those who have written upon its history looked more to *a vitiated state of the atmosphere floating in nebulæ wafted to and fro by the currents, rather than to the influence of contagion as the cause by which this and many other affections are carried from place to place and from country to country*, they would have more rationally and satisfactorily accounted for its wide spreading. I hold also, that the present epizootic, which still rages in many places in these islands, depends for its appearance here upon such a cause; but, Gentlemen, do not understand from these remarks that I deny the power of contagion to produce disease. Most certainly not: I believe that epidemic affections receive fresh seeds or new vigour from the exhalations of these animals which already have become its victims.

To consider at greater length, or to more fully enter into this alluring subject at the present time, would draw me from that with which I set out, namely, the history of cattle medicine; and I therefore retrace my steps, first informing you, that to Dr. Layard, a physician, we are indebted for the best account of this disease: his Essay was published in the year 1747. Several other treatises likewise appeared about this time, and upon this subject; but all I have yet seen are the productions of the members of our elder sister science, namely, human medicine.

From this period up to the establishment of the Veterinary College few writers appeared: among the most valuable are Mills on Cattle, and Downing.

The author of the first-named book regrets the non-existence of an institution in this country similar to the veterinary school at Lyons, which had now been established many years under the patronage of royalty, and conducted by the celebrated Bourgelat. He says, "*Humanity is shocked at the barbarity and ignorance of the generality of farriers, and it were greatly to be wished that*

men of education and skill would cease to think the healing art of cattle an object beneath their notice." Must we not blush that these observations, made with so much feeling and force, and containing such honest truth, apply in an almost equal degree to the present time. These thoughts and opinions were promulgated by one who wrote in 1776. *What would he now have said, had it been possible for the same spirit which dictated the remark to have remained uninjured by time until now?*

Downing's treatise can only be noticed as possessing merit in that part of it where directions are given for the removal of calves when presented in an unnatural position.

At about this period "Rawlins's Complete Cow Doctor" was published, and in it I find the first mention of the elastic tube or probang, invented by Dr. Munro, for the cure of the affection called at that time *fog-sickness*—hoven of the present day. This instrument has been much improved within a few years, as I shall have an opportunity of explaining to you when this disease and the accidental lodgment of large portions of food in the œsophageal canal, called *choaking*, comes under our consideration.

We have now brought down the history of this division of veterinary science to that period which must ever form the grand epoch of its advancement and improvement, namely, the establishment of the Royal Veterinary College.

It is not my intention to go fully into the history of the foundation of this our Alma Mater. It is sufficient for our present purpose to shew that the then degraded state of the veterinary art, the ignorance of its practitioners, and the great losses sustained from time to time by the agriculturist, induced the Agricultural Society of Odiham, in Hampshire, in the year 1785, to turn their attention to the subject, and to take measures to secure a more enlightened and better educated body of men to practise the veterinary art: with these views they contemplated the sending two young men to the veterinary school at Lyons, to receive instruction in that institution. Resolutions were passed in August 1789 by that body to carry into effect so grand an object; and were only prevented by the arrival in England of Charles Viall de St. Bel: the latter part of his name was adopted from his family having long possessed a domain called St. Bel, in the province of Lyons, and is the one by which he is generally known as the first Professor of this Institution.

It must not be forgotten, that the original intention of its founders and supporters was to make it a school in which the Anatomy, Physiology, and Pathology of all domesticated animals should be taught. Circumstances, however, from its earliest beginning, operated to prevent so laudable and patriotic an object

from being carried fully into effect. Among these are to be named the incompetency of its first Professor, and the policy and peculiar objects of Mr. Coleman, who succeeded him; but, Gentlemen, it cannot be denied, and in my humble opinion every member of the Institution would be wanting in that respect which is due to the departed worth and talent of Professor Coleman were he to withhold his meed of praise from him who now "sleepeth with his fathers" for the interest which he took, and the rapid advances which were made, in veterinary science under his auspices and direction. After the establishment of the Veterinary College, a host of writers upon this and other branches of the art appeared; but our time would not be profitably occupied were I to go through the order of dates, names, and authors whose productions we have been favoured with. I can assure those whose inclinations lead them to consult these works, that they will rise from their perusal with no very elevated ideas of the importance of cattle medicine, or the means which were taken to improve it. If any among you thirst after such knowledge, you may consult Boothby, Clater, Parkinson, Ringsted, Swaine, Stevenson, Tyndals, Topham, Towne, *cum multis aliis*. Some useful books in certain branches of cattle medicine have, however, been published, and among them I would mention, Hogg's Shepherd's Guide, Harrison on Rot, Peall on Foot Rot, and Skellett on the Parturition of the Cow, with several others whose names do not immediately occur to me. To Mr. Blaine, whose labours will always be esteemed as a great boon to the profession, and looked upon as one of the principal causes in effecting the rapid progress of our art, is due the credit of attempting to place on *scientific principles* the practice of cattle pathology; but he who has devoted more time, and whose works I can place in your hands as worthy of your deep study, is a gentleman with whom I have had the pleasure of being acquainted for many years; first as a valued preceptor, and since as an associate and friend. I allude to Mr. Youatt. His works on Cattle and Sheep, published by the Society for the Diffusion of Useful Knowledge, will ever remain monuments of his energy and his successful efforts to place this branch of science on its true basis.

I have thus far proceeded to lay before you the history of cattle medicine; but my narrative would indeed be incomplete, did I not speak of events which recently have been adopted to assist its progression towards the summit we all hope to see it occupy. The establishment of the Royal Society of Agriculture must ever be regarded as a grand era connected with its advancement. No sooner was this important institution firmly based, than means were taken to carry out one of its fundamental rules, which

is as follows. "To take measures for the improvement of the veterinary art as applied to cattle, sheep, and pigs."

You are most of you aware of the means adopted by the Society to effect such a noble and patriotic object, and that Professor Sewell, your able and talented instructor, with whom I have now the pleasure of being associated as a colleague, was appointed the lecturer to impart, to the future members of the veterinary profession, instruction in this branch of their studies. I am sure, Gentlemen, that I have your deep sympathy when I add, that the declining health of this ornament of his profession has compelled him to relinquish this part of his labours: fervently as you join me in your sympathy, not the less so will you unite in the wish, that long may he be spared to accomplish more for the benefit of that science which is dear to him and to us, and upon which so much of the weal or woe of our country depends.

Here, then, I may safely close my account of the history of that branch of veterinary science which has long been received by the thinking portion of the community as a most important one, and one directly affecting our agricultural prosperity. The narrative is, I trust, an impartial one, and by its relation you must have seen that there has been a progressive improvement of knowledge upon this subject. *Slow*, much too *slow*, has been the advance; impediments have been placed in the way; but, happily, we may now congratulate ourselves that most of them are for ever removed.

In this, an introductory address, and delivered at the very opening of the session by a new teacher and an inexperienced lecturer, you will, perhaps, kindly excuse me if I detain you a few moments, by bringing before you a portion of my own history as connected with my professional life.

Long prior to my becoming a pupil at the Veterinary College, nay, even from my infancy, I had the benefit of the instruction of several members of my family, who for many years were engaged in veterinary practice in the counties of Suffolk and Norfolk, as graduates from this Institution. In the beginning of the year 1829, after having passed the ordeal of an examination, embarking on that sea of anxiety and trouble, namely, a professional life, I succeeded to the extensive practice of my ancestors, which I conducted for a period of seven years, when I was induced to reside more in the immediate vicinity of London, where, as many among you are acquainted, my attention has been given, as heretofore, to the diseases of our domesticated animals, studying their various and complex maladies in the yards and pastures of the gentleman and agriculturist, and devoting my experience for their alleviation and removal. From this it will be seen that, for a period

of thirteen years, as a veterinary surgeon I have had many advantages, and gained, I trust, some practical knowledge.

I have thus, Gentlemen, ventured to put you in possession of the circumstances which induced me to believe that, by the exercise of all my energies, I might be useful to you as rising members of the profession.

If my conjectures were correct, I was necessarily convinced that I was by duty bound to the profession I had chosen to follow, as well as by every tie of honour to my country and humanity to the lower animals, to take that course which would tend to the accomplishment of so laudable an object, assisting, to a certain extent, the advancement of science; thus I fancied to become a humble means of adding to our nation's wealth, by implanting in the minds of veterinary students proper principles for their guidance, when in after-life they should be called to administer to the wants of suffering animals, by which they should be rescued from the grim jaws of death. I will close these remarks by quoting from the immortal Nelson, "Palmam qui meruit ferat."

In the early part of this Lecture it was asked, How was this branch of veterinary medicine to be placed on its true basis—how were the wants of the country to be supplied? and it was answered, by the application of the same principles that have redeemed from obloquy and disgrace a once equally degraded branch of the art. Here, then, it is right to inquire *what means have proved so useful, and what causes have effected this important measure? what power exists to support and uphold the elevated position now attained?* One plain reply will be sufficient,—Anatomy and Physiology, with the principles and practice of combatting disease, *have been regularly and perfectly taught in this Institution:* these powers may and will, I trust, now be put in force towards effecting another noble purpose. Anatomy is that branch of science which teaches us not only the structure of the animal body, but the form, size, and relative position that each part holds with regard to the other. It is generally divided into human and comparative; the former having reference to the component parts alone of the human frame, while the latter takes cognizance of those of the inferior animals as compared with man. A knowledge of the composition, structure, and relation of the bones, ligaments, muscles, &c. is termed descriptive anatomy.

Physiology consists of a knowlege of the uses of the several parts which constitute or build up the animal frame. This, like anatomy, is divided into general and descriptive, human and comparative. It is unnecessary for me here to add, that without a

thorough acquaintance with these important divisions of medical science, the surgeon becomes an empiric if he attempts to restore to healthy action any deranged portion of the system, the structure and functions of which he knows nothing when each perfectly performs its allotted duty.

These branches of your study will be regularly taught you by Professor Spooner, who will not fail to forcibly impress upon you their importance. But, Gentlemen, however excellent may be your instructions, and clear as will be your teacher's demonstrations of the component parts of the animal frame, for you to have this all-important knowledge indelibly fixed in your memories, YOU MUST DISSECT! You yourselves must labour in the vineyard before you can or ought to expect to partake of its rich produce. Depend upon it, that, in the dissecting room, and by your own labours, anatomy is to be especially perfected, if not acquired.

If you follow the advice I have just given, and take a pride and a pleasure in rendering yourselves competent anatomists with reference to cattle, sheep, and other domesticated animals, who, I would ask, is to be found bold enough to point out an individual and say, that he alone will rise in his profession? No: the same road is open to you all, and each should be stimulated to further exertions by seeing his friend and brother pupil making advances in professional knowledge. Remember that your reward is great; for at the present moment your country, with all her boasted wealth, *possesses not a complete work upon the structure and economy of any of her domesticated animals*, save and except the horse. I am happy to add, that in obtaining a knowledge of anatomy, you will find a valuable auxiliary to your studies in Mr. Barth, who will demonstrate to you daily in the dissecting-room, and to whom you for your success in after-life will be under much obligation.

Important as are anatomy and physiology, not less is an accurate knowledge of the nature and treatment of disease. To instruct you in this, so far as these animals are concerned, falls to my lot; and I hope that I shall be at all times found, both in and out of the theatre, willing and eager to communicate any information which will prove advantageous to you, in enabling you to pass the ordeal of the examiners' board, and prepare you for the efficient discharge of your future duties.

The instructions upon pathology have been extended; and placed as I now am, I cannot but feel much pleasure in being able to congratulate you on having for your other pathological teacher Professor Sewell, or in his absence, and when incapacitated by illness, Professor Spooner, who has long and deservedly

held such a high position in the profession; and being thus associated, will greatly compensate for my inexperience as a lecturer.

But, Gentlemen, if your studies and efforts at improvement were to stop here, little advantage would accrue either to yourselves, your employers, or your patients. A knowledge of a disease is said to constitute half its cure; but the other half, that which makes up the whole, what must become of it should you be unacquainted with the means to combat or to conquer it? Your especial attention, therefore, must be given to the instructions imparted to you by my highly-valued friend, and now esteemed colleague, Mr. Morton. His talents are honestly and anxiously employed for your benefit, and to no one of your teachers will you be more indebted for success than to him. By the publication of his "Manual of Veterinary Pharmacy," he has done much credit to himself, and, at the same time, rendered most efficient aid to the aspirant for professional honours. This book must be made the companion of your studies, and every one of you should be in possession of a copy of it, for reference at all times. Professor Morton, at the commencement of his career, selected the proper road to fame and future usefulness, avoiding every devious or doubtful path, however alluring it might be; for here he well knew difficulties would arise, and to conquer which much time would be required, and that at the period too when advance was the most needed. But why should I deal in metaphor? Rather it is right at once to state, that, both in his works as well as in his lectures, his instructions upon the history and the application of the various medical agents for the alleviation of disease *are extended to all domesticated animals.*

I have now shewn the various means which are provided to furnish you with instruction upon anatomy, physiology, pathology, and the application of medicine for the removal of disease in our several patients; but there is one to which I have not yet alluded, that is the Veterinary Medical Association. The establishment of this institution has, in my opinion, done as much for the advancement of our art as the very foundation of the College itself effected. By it we are periodically put in possession of the views entertained by practitioners upon the nature and treatment of disease, the morbid specimens which are weekly laid upon the table at its meetings, accompanied by a narrative of the symptoms and the treatment that has been adopted, fully bear out my observation. These histories,—the essays presented for discussion,—and the opinions entertained of their merits, are, as most of you know, faithfully recorded and published, and the Journal of its proceedings I view as reflecting much credit upon the

society, and of invaluable benefit to the profession. To this Association you cannot give too much of the honest application of your time.

I will detain you but a few moments longer; but, before I conclude, it is right that I should name the books which are necessary for the pupil to possess. I make no attempt to speak of all the publications of the present day, but only such as are absolutely necessary for the student.

First stands Mr. Percivall's "Anatomy of the Horse," his nomenclature being adopted in our dissections. This gentleman has likewise published some parts of a standard work on the Pathology of the Horse. His "Elementary Lectures" are, I fear, not now to be procured by you. Mr. Morton's "Manual," and his "Toxicological Chart" are, as before stated, indispensable. The same remark equally applies to Mr. Youatt's works on the Horse, Cattle, and Sheep: these I have told you are published under the superintendence of the Society for the Diffusion of Useful Knowledge. THE VETERINARIAN, of which Mr. Youatt is the Editor, has been truly designated a library within itself. Mr. Blaine's "Veterinary Outlines," and his "Canine Pathology" ought to be deeply studied by you, and should find a place in the library of every veterinary surgeon. Mr. W. C. Spooner's work on the Foot of the Horse must, likewise, be made a pocket companion in your studies. Mr. Spooner has also published a new edition of "White's Cattle Medicine." The late Professor Coleman, Mr. J. Turner, Mr. Bracy Clark, with many others, have set before us their labours to assist the advancement of veterinary science, and they should each in its turn be read by you. Hooper's Medical Dictionary is one of those publications which you will find extremely valuable in defining the terms that very frequently must be used by your teachers in their lectures; and allow me, Gentlemen, in this place to impress upon *your* minds, the necessity of observing strict attention to every department of your studies, and at all times, whether accompanying your teachers in their daily visits around the infirmary or attending the lectures or demonstrations in the theatre or dissecting room, to be found honestly devoting your time and your talents; for the cultivation of habits of industry and sobriety can alone lead to the end you now have especially in view, and upon which your success in after-life mainly depends.

Before I take my leave of you on this occasion, I venture once more to direct your notice to the position in which I am placed. To a considerable extent, it must not only increase my labours, but operate in preventing the instruction which it is my duty to impart to you being so perfect and complete as I desire; if,

however, you will give me your attention from time to time, when I shall need to receive your support and encouragement, this will act as a powerful incentive to my exertions, and make what would otherwise be a labour, a great and continued pleasure. I, therefore, throw myself on your kind indulgence, being fully assured that it will not be withheld from me.

On each succeeding Wednesday and Saturday you will find me at my post, ready to impart to you such information as I am capable of; and I fervently hope that the time occupied by us upon such subjects as our future lectures will embrace, will be spent to our mutual improvement, and tend for the advancement of veterinary knowledge. It now, Gentlemen, only remains for me to thank you for the kind attention which has been given me in this my first effort to appear before a public audience. *This I do most sincerely;* and while I announce that Mr. Morton will at twelve o'clock to morrow meet you in this place, and commence his course of valuable lectures, be pleased again to accept my best thanks.

THE ANNUAL ORATION

ON THE PRESENT STATE AND FUTURE PROSPECTS OF THE VETERINARY PROFESSION.

By Mr. Thomas Turner.

When I reflect on the distinguished individuals that have preceded me in these orations on veterinary science, and which reflect so much lasting honour upon them, the task that I am about to undertake this evening, rest assured, almost unnerves me. Never was it in hands more unfitted for the task, than in those of the humble individual who now addresses you. Believe me, that were it not from the circumstance of my holding an official and highly responsible situation, in conjunction with a considerable portion of the veterinary body, no solicitation, however pressing, would or could have induced me to enter the list in the character which I now sustain; but, Gentlemen, trusting to your kind forbearance and to my own natural courage, I shall venture something, at least, if not for a far better purpose, yet for your amusement.

The attempt at attaining high honour or wealth and station in society I conceive to be a laudable object of ambition in every well-educated and industrious man, to whatever class of the profession it may be his destiny to belong; and, among the *acknow-*

ledged professions, numerous are the individuals who have thus pre-eminently distinguished themselves—having arrived at well-earned reputation, with ample means, and standing in society of the very first order. And is this, Gentlemen, give me leave to ask you, is this too fond a hope for us belonging to the veterinary art to indulge in, although the day may be a somewhat distant one? I have heard enough to induce me to answer, No!

I use the word art, not profession, because I am informed *on authority* that ours is not legally a profession, and is not acknowledged as such by any other profession than the medical. The late lamented stars of the medical profession—England's pride—have already conferred upon us an honorary stamp, by condescendingly styling ours the sister science, both publicly and privately; and to their friendly relationship, and thus acknowledged, we owe, to one and all of them, a debt of lasting gratitude.

When we consider the condition of the veterinary art, both as respects its attainments in science and also the estimation in which it was held by the public, half a century ago, as compared with the present era, I, for one, most cheerfully acknowledge that there is much reason for congratulation. Our improved position is mainly attributable to those eminent and zealous teachers in the various medical schools who have spent their valuable lives in disseminating sound information, both theoretical and practical, for the benefit of the numerous class of practitioners scattered throughout the empire; and who, by their exemplary conduct in all the relations of life, have had stamped upon them the character both of gentlemen and men of science. In consequence of this the veterinary surgeon has had the rugged path of difficulty and labour occasionally much softened by the friendly acknowledgments of men of noble birth or fortune, who have been free in their expressions of gratification while in the society of the veterinarian, and listening with attentive ear to a point of science that had interested them, have been too generous to withhold their meed of praise for the information thus obtained.

Real lovers of horses, of all grades and conditions in life, justly estimate and respect our art; but the uninitiated in such matters do not exactly know our position, and at present very much question our *right* to professional consideration. I must here be permitted to detail an occurrence that happened to myself in the summer of the last year, and which confirms my observation:—Having to attend at Warwick sessions as witness and prosecutor of a man who stole two horses, the property of two gentlemen, from a field of mine at Croydon, and which ended in the offender being found guilty and sentenced to be transported for ten years, the

counsel for the prosecution ably addressed the Chairman on the bench for my expenses to be allowed as a professional man, whose time was in much demand by the public.

The worthy Chairman's reply was a very decided one, and as follows:—"Had Mr. Turner's profession been acknowledged as other professions, I should have had much pleasure in sanctioning, and the county would have sanctioned, a more considerable pecuniary allowance; but this not being the case, I much regret that it is out of my power to allow Mr. Turner a sum beyond that of any ordinary witness, viz., five shillings per day." I immediately made my bow to the Court, and, as you may all fairly conclude, not quite upon good terms with my position. A few short minutes passed after this Court-scene was over, and the thought struck me, that had we been a chartered body I should have escaped this apparent indignity, and, only a few weeks prior to my visit at Warwick such an advance had been made in furtherance of our common cause, that there appeared a foretaste of empiricism being deprived of its sting, and that every licentiate of the Royal Veterinary College would be deemed a professional man, as by law established.

The very important movement of a large body of veterinary surgeons, which commenced in a meeting convened in this metropolis, and advertised as such in the public newspapers and periodicals, announcing for its object the welfare of the veterinary art, has lately taken place. At this meeting a committee, with a chairman and secretary, was appointed to watch over its interests, and subscriptions were received to aid in carrying out the design. On this public occasion I cannot forbear expressing the deep feelings of obligation and esteem which I entertain towards the gentlemen who formed the committee, and who by their urbanity, zealous attention, searching scrutiny, and firmness of purpose, aided by the most honourable intentions, in my judgment deserve the cordial thanks of every member of our profession. A few words, however, I must be permitted to say respecting the secretary, Mr. Thomas Walton Mayer, of Newcastle, with regard to whom any eulogiums of mine would fall immeasurably below his real worth. Without his co-operation after the ladder had been raised to the building, not one step could have been advanced. The labours of that gentleman have proved little short of Herculean. For his generous self-devotion to the accomplishment of our noble object he has my most grateful thanks; he has also that which is of far higher worth,—his inward feeling of satisfaction at being instrumental, in early life, in attempting to establish the best interests of an art of which he is becoming so distinguished a member.

Some months previous to the retirement of the Whig administration from office, a communication was received through the medium of the Secretary of State for the Home Department, in reply to an application of the veterinary body at large to become Incorporated Veterinary Surgeons, requesting them to attend at the Home Office, prepared with the draft of the proposed charter, for the inspection of the Attorney and Solicitor General. With all convenient speed this was attended to, and we were much flattered at the seeming prospect of success. But, alas! in the midst of our liveliest emotions, we were doomed to be disappointed by receiving another communication from the Home Office, stating that the charter of the veterinary surgeons was for the present in abeyance; but, mark you, Gentlemen! there was not one word in the official letter stating that our application was rejected. A few weeks afterwards the old administration gave place to the present one, and without loss of time all the documents relating to our proposed charter were handed over to Sir James Graham, who, after due deliberation, expressed to Mr. Kemble, M.P. for Surrey, his ready acquiescence to receive a deputation from the veterinary body on the subject. Friday the 22d of April last being appointed, a deputation of veterinary surgeons, consisting of Mr. Wm. Percivall, of the First Life Guards; Mr. W. J. Goodwin, V.S. to the Queen; Mr. Wm. Field, Mr. Gabriel, and also the Chairman and Secretary, accompanied by Mr. Kemble and Mr. Antrobus, the two members for Surrey, waited upon the Right Honourable Baronet at the Secretary of State's Office. The result of that interview, to say the least of it, will form an epoch in our veterinary history; and deservedly so, when it is recollected that an application for a charter was made by our parent institution, about forty years ago, to the late Earl of Eldon, then Lord Chancellor, who summarily dismissed the application, by pithily saying "*You shall not have a charter: the time has not yet come for that.*"

It must be a source of becoming pride to every veterinarian engaged in this undertaking, whether it be eventually successful or not, that the individuals who had the honour of being entrusted to represent the interests of the body at large to Sir James Graham were most kindly and patiently listened to, for a whole hour, by that distinguished statesman, and every material point discussed with him seriatim. I should much belie my own feelings, were I not to say that, judging from the interview, we shall, at no very distant day realize the principal object of our wishes. What is the material point in this great movement so eagerly sought?—The laudable ambition of a numerous body of men to be placed upon an equal footing with other professional persons,

obtaining the same privileges and immunities, and the public acknowledging their professional title, by these means doing away the necessity of self-created honours. In the name of all that is honourable, have we not a *right* to this?

Are we not a body of men already of some standing in society and stake in the country, possessing a medical education in every sense of the word, and this not accomplished without a very great outlay from every certificated member? Are there not, also, veterinary surgeons of high standing in the army, serving her Majesty in all quarters of her dominions; and, added to these, authors of veterinary works, whose writings shed a lustre on every subject on which they treat; and, last in the list, yet not the least worthy, numerous sterling certificated practitioners of our art, both in town and country, who possess well-earned fame in restoring or preserving the life and limbs and enjoyment of many a valuable animal committed to their care? Have not persons like these secured for themselves a place in the patronage and esteem of many who occupy very high stations in society? also, at the same time, in the regard of a discerning community who estimate so justly the services rendered by the practical veterinarian?

I think I may affirm, without fear of contradiction, that there has been an invariable unanimity in the committee of veterinary surgeons in all their proceedings; and I am quite sure that what I am now about to observe will be heard by all present with the most heartfelt satisfaction; viz., that in all our endeavours to benefit and enhance the position of the present race of veterinary men, and that also of the student, every effort has been made without any hostile or unfriendly feeling towards our parent institution. To shew the absence of all rival inclination, the committee adopted the following clause:—"It is usual to insert in charters a site of land, describing so many feet and inches, and of certain value, which, in fact, is to be the spot chartered? But, as a proof of the utter unwillingness of the committee to be thought likely to engage in any improper undertaking, they do honour to themselves by striking out that clause altogether, as not being required." The draft-charter was, in this shape, presented at the Home Office.

In the attainment of a charter and its privileges we are associated with men of other learned professions, and immediately a field opens for the introduction of young men of liberal education, which is a main spring to the perfect acquirement of every science; and, for knowledge even thus obtained to be brought practically to bear, that never-ceasing industry must be exhibited

which we see pursued with so much vigour by the leading men in every kind of profession at the present day.

With this impression forcibly on my mind, I feel persuaded that the professors of the Royal Veterinary College, and every graduated member of that college throughout the kingdom, should tender their zealous support for the accomplishment of this undertaking.

When it is seen that every succeeding year brings with it an accession to the list of aspirants for veterinary fame—and, as a convincing proof, I have need only to cast my eye around upon the numerous class of pupils before me, whom I have now the honour of addressing—who, after pursuing every branch of study with an intensity of zeal, maintaining their character unimpeached as gentlemen during the progress of their pupillage, make their final exit from the Royal Veterinary Institution crowned with the possession of all its honours—surely, say I, they are justly entitled to the benignant countenance of their preceptor during their after-struggle: and a good parent never deserts its offspring under any conceivable circumstance. Still, the more important feature of being well placed and settled in after-life, and turning those high attainments to a profitable account, are matters for grave consideration; as, upon carrying out the practical branches of an art with credit, will depend not only the maintenance but the requisite competency which every veterinarian, after years of trial and anxiety spent in his public career, becomes fairly entitled to, amid the shoals and quicksands that invariably beset the path of the most successful, often requiring to be combated with energy or met by forbearance suited to each particular source of annoyance.

I say, unhesitatingly, that a young practitioner's *start* into the practical part of his profession *is a crisis, and one of the most important during life;* and every formidable barrier to his successful progress should, if possible, be removed, or so weakened that its remaining existence may be reduced to a mere matter of indifference.

The legislature having already hinted to us, and also to some medical friends, their non-interference with the empirical practice of the healing art, every effort in our power as a substitute for legislation that will in any degree lessen so crying an evil ought to be had recourse to; with the sincerest motives, therefore, I have humbly to recommend the following system of policy, which, if followed, would most effectually strike at the root of the evil.

On the application of an individual to become a pupil at the Royal

Veterinary College, his eligibility, as to education, should be first tested by the Professors in conclave; and, if he is found illiterate by those gentlemen, he should be mildly rejected, and recommended to pursue a course of study which might, at some after period, entitle him to admission. I cannot refrain from expressing my belief that a productive source of injury has been perpetuated, and is much to be lamented, by the hitherto indiscriminate admission of pupils into the parent Institution.

I also deem the following expedient to be peremptorily demanded;—that the name and address, if known, of every certificated veterinary surgeon, alphabetically arranged, should twice in each year be advertized in the three leading newspapers of the day, the expense attending which must be considered trifling as compared with the general benefit. There would be nothing invidious in this, as it would leave the uncertificated or self-educated, in their wisdom and discretion, to publish a similar notification of themselves for the information and guidance of the public.

I cannot altogether take leave of my young friends and their interests, without adverting to a short but pleasing controversy which my much esteemed friend Mr. William Percivall—in the copious flow of his zeal, which has ever been most beneficially exercised to the advantage of his profession—has been prompted to engage in, touching the groundwork of the practice of the veterinary student. Mr. Percivall has promulgated a certain code of laws for the youthful aspirant, with reference to the shoeing art. which I cannot help thinking are much too stringent, and certainly somewhat misplaced.

As a practical man, I know full well that, to carry out the art of shoeing horses to perfection, two artificers of sufficient physical strength, skill, and dexterity, should be selected, and their required performances are perfectly distinct from each other.

The fireman, intended only for one side of the anvil to forge a shoe, rarely, if ever, arrives at his zenith in the perfect execution of his work until some years have passed away exclusive of the seven years' apprenticeship; and the doorman, on the other side of the anvil, or safe nailer on of the shoe to the foot, is never deemed to be expert or unerring until after he has served seven years' apprenticeship in that department alone, in a good bustling shop of business. With these facts so fresh in my recollection, I cannot forbear, in mercy to the student, to suggest that a line should be drawn in this affair, feeling myself convinced that, in the event of Mr. Percivall's advice being strictly carried out, and all the leisure time of the pupil spent in accomplishing the un-

dertaking of making a horse-shoe, it would at best prove only a counterfeit.

Having in my own person tested the performance, both of making a shoe and the nailing on of shoes, I am enabled to offer competent testimony to another fact,—that a full development of bones and muscles is indispensable, setting aside the tact required for either of these masterly undertakings.

To this extent, Gentlemen, I cordially agree with my friend, that every student before he finally quits the College for practice should be expert in taking off a shoe, also thoroughly handy in searching and paring out a foot, and to be fully master of reaffixing the shoe to the foot with safety. When possessed of this degree of skill, every useful purpose, I conceive, will be obtained, and the unwilling artificer, or sulky vulcan, is set at nought under any kind of emergency; but as for the necessity of his being able *to make a shoe*—using Mr. Percivall's own words—a performance which I think I have shewn not usually a first-rate one even after a seven years' apprenticeship, I am exceedingly unwilling to put this laborious tax upon the individuals, most certainly not destined for so intolerable a burden, especially if it should fall upon one whose physical powers are not commensurate with his mental ones.

Gentlemen, I trust it will not be for one moment considered, that one tittle less of the manual dexterity than is described by me would prove adequate, for I am desirous of impressing on your minds a circumstance of the highest importance, mixed up in the possession of this branch of knowledge.

I have long entertained an opinion, that a more difficult duty the young practitioner of our art does not engage in at the commencement of his pursuits in life, and which, more or less, will attend him until he becomes grey-headed, and bids the final adieu to his practical deeds, *than to decide accurately* when a patient is submitted to his inspection for lameness, whether such lameness proceeds from *foot or leg*. The very fact of our patient being mute demands a degree of intuitive acumen in the examiner of no ordinary kind, strengthened by a familiar acquaintance with the external foot in all its varied forms of health and disease. This friendly alliance can be always advantageously cultivated in the forge, where the leisure of the student should be invariably spent.

The next subject which I shall venture to touch upon is one of peculiar interest to every grade of agriculturist practically engaged in working the soil of this great country for a remunerating profit. I allude to the increased activity of late in pro-

mulgating scientific and practical knowledge as a curative means to be used for the various ailments incident to cattle, sheep, and all the domesticated animals.

It is not too much to admit, that almost every veterinarian, whose avocation is in the country, must take deep interest in all points connected with instruction in this branch of the veterinary art. I fondly cherish a notion, from the prospects before us, of the dawning of the day when the graduated veterinarian will be deemed fully qualified to discharge every part of his duty, and that he will maintain an exalted position in every agricultural society in Great Britain, not only in his proper character as a gentleman and a scientific man, but acknowledged by them also to be the only true source whence practical skill in these matters can emanate. Then, and not until then, will the nobleman, landed proprietor, large and small farmers, land steward, and respectable bailiff, duly estimate his services, and banish for ever from their establishments the uneducated pretender and itinerant dispenser of quackery.

A mutual understanding must immediately follow between the employer and the employed, and whatever class of animal—no matter the ailment, whether sickness, accident, or lameness—the respectable veterinary surgeon will be applied to, his attention and science will be promptly rendered, and the pecuniary remuneration for such matters so arranged as for the amount to be both honourable to the employer to pay and honourable on the part of the veterinarian to receive. In the adoption of this plan a frequent cause of vexation to the skilful practitioner, *in vogue at the present day*, may possibly be avoided, such as the following example:—

The owner of a valuable animal—it is immaterial of what class—whose life is at the extreme point of danger, the case having taken on this character from the great length of time which may have elapsed since its commencement, has not thought it worth while to call in veterinary aid, judging that the animal would soon *do very well without the doctor;* when all of a sudden the owner, or his representative, begins to be alarmed, and exclaiming, *now* we must send for Mr. So-and-so, for the beast will die sure enough, and that will be a pretty job, desires the messenger to tell Mr. So-and-so to be sure and come directly. Mr. So-and-so is soon with the patient, and by his skill and unwearied attention restores him to health. This is highly gratifying both to the owner and doctor. Many very flattering and agreeable things are said by the owner in praise of science and its vast improvements, and, of course, it would be supposed that a lasting impression had been made upon this individual in favour

of science. It will last only until the next case occurs, and that not quite so formidable as the other; and then what is the course that he pursues? Why, he sends for the nearest pretender to avoid the expense of the scientific man to whom he was so recently under such a deep sense of obligation. Such instances as the foregoing, it is to be regretted, are not unfrequent; and it is not at all uncommon for such illiberal persons to plunge a deeper sting into the heart of the regular and emulous practitioner by jeopardizing his well-earned fame in urging his personal attendance upon valuable dying beasts at the eleventh hour, while they and their *ducks* have been quacking away the preceding *ten*, the only rightful and, perhaps, again successful province of the regular vet.

To Mr. Youatt, Gentlemen, the public and ourselves are deeply indebted for the energetic manner in which he has, for a series of years, wielded his powerful pen in favour of scientific instruction being imparted to the students relative to the anatomy, physiology, and pathology of cattle and sheep, including, also, the still lower classes of animals; and most gratifying indeed must it be to the feelings of that noble minded man to have lived to witness this vacuity so efficiently filled by the recent appointment of a lecturer at the Royal Veterinary College on this branch of education in the person of Mr. Simonds, a gentleman brought up in the practical school, and who, in conjunction with his other scientific attainments, cannot fail to render his full share to the public weal and general advancement of science.

It affords me much pleasure, Gentlemen, in conclusion, to acquaint you that my excellent friend, Mr. William Field, will deliver the Oration for 1843, in whose hands I feel assured the honour of our art will be maintained, and the ends of science most ably advocated and advanced.

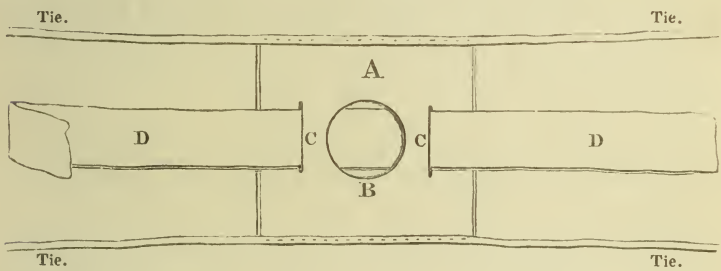
DESCRIPTION OF A BANDAGE FOR CAPPED HOCKS.

By John Campbell, *Esq., Lieut. and V.S. 7th Regt. of Madras Light Cavalry.*

Dear Sirs,—From being a subscriber I am at length induced to become a contributor to your valuable Magazine, should you find room to give insertion to my communications from time to time.

Last year, while on the Continent, I chanced to pitch my tent, for a few weeks, in the little village of St. H——, in the wilds of the forest of Ardennes. I there made the acquaintance of Monsieur Willieme, government veterinary surgeon to the district (for in Belgium a licentiate of the veterinary school is appointed to each tract of country, and paid by the state). My friend having received leave of absence for some days, requested me to look after his patients, which I accordingly did. Among others was a very fine, powerful, bay charger, the property of an officer commanding a detachment of *gens d'armes*.

He had been under treatment for capped hock. The combined efficiency and simplicity of the hock bandage gratified me much; and as I do not think the best mode of securing a bandage on that complicated joint is generally known in this country, I have much pleasure in forwarding an account and diagram of the same. I may state, that the phlegmonous tumour had been laid open, and a pledget of tow, saturated with tincture of aloes, inserted therein. The object of the bandage was to retain this in its place, which was accomplished as follows:—



A piece of cloth, A, sufficient to embrace the joint, is secured around it by four ties from its respective corners.

At B is a circular hole cut in the cloth A, large enough to allow the projection of the point of the hock.

At C C are two other longitudinal cuts in the cloth A, deep enough to allow the bandage D to pass through one of them; then under the cloth A over the point of the hock at B; again under the cloth A and out at the other cut C; after which a few turns may be taken, and secured in the ordinary way.

By this simple contrivance we find it a very easy matter to retain, against the possibility of displacement, any dressing, should it be on the very angle of the joint.

I remain your's.

Kilmore by Oban, Nov. 9th, 1842.

ON THE PRESENT EPIDEMIC AMONG CATTLE.

By Mr. John Storry, *V.S., Pickering.*

I am induced to offer a few remarks on the present epidemic which has for some time past proved so fatal among horned cattle in many parts of the country. The North Riding of Yorkshire has not been exempted from its malignity, and this neighbourhood has had its share of the fatal disease.

I have had to attend many extreme cases, and, from the experience I had of the epidemic of 1839-40, and 41, I am decidedly of opinion that many of the present cases had their origin in, and may be traced to, imperfect and unskilful treatment of the former disease. As it was not of so fatal a nature as the present disease, many of the farmers at the periods above stated undertook to cure their own cattle by the use of the recipe given by Mr. Sewell to the Agricultural Association, and in some slight cases administered no medicine at all: thus, for want of skill and judgment as to the proper treatment of the disorder in its various forms and manifestations, they seldom did more than remove the external symptoms, while the seeds of the disease remained internally quiescent, and are now brought forth with increased malignity in the present formidable epizootic.

In some cases, where I have been called in at the commencement of the disease, I have not found it difficult to effect a cure, although every symptom of the approaching disorder was becoming manifest. In one case, where the disorder had been allowed to proceed for several days without applying for a remedy, I found it very difficult to remove it; and although by uncommon perseverance I succeeded in completely eradicating the disorder, yet the udder was so much affected by it, that two of its quarters have become totally useless for the time to come. I have had several cases which I pronounced incurable, and of course would give them no medicine.

I have only lost one out of several which I have had under my care; the following were its symptoms:—Considerable hoosing—dull, sluggish appearance—rumination totally ceased—the ears and extremities cold—rigid constipation of the bowels—a profuse discharge from the lachrymal glands—pulse indistinct, but after venesection became frequent and full, beating 90 in a minute—and respiration much accelerated. These combined symptoms proved too obstinate at their advanced stages to be removed by the most powerful aperients and sedatives that could be administered, and the consequence was unavoidably fatal.

In all cases where a cure was performed, I have invariably commenced with venesection, and then administered, as the case seemed to me to require, aperients and sedatives.

I have also seen good effects produced in some cases from the use of veratrum, combined with calomel and opium; at the same time giving aperients, such as croton. tiglii semin. pulv., magn. sulph. &c.

Should you consider the above, or any part of it, of sufficient importance to occupy a small space in your invaluable miscellany, it is quite at your service.

ON CURBS, OR AFFECTIONS RESEMBLING THEM.

By an Amateur.

The following is the substance of my recent communication to you on the subject of curbs or curby affections, which you are at liberty to put into the fire or to publish in any way that you may think useful, not, however, divulging my name.

In the spring of the last year, I found a young horse that my groom had been hunting slightly lame in the hock of the near hind leg, evidently from the heat, tenderness, and swelling at the seat of curb. The horse was kept quiet for a few days, when I rode him twenty miles across the country, he going perfectly sound.

In a day or two I rode him hunting, and perfectly sound until within a mile or two of home, when he became very lame, and I consulted a veterinary surgeon, who pronounced it a clear case of curb: the swelling, heat, and tenderness were obvious at the seat of curb.

The horse was kept quiet, and cold lotions applied for a few days, when the groom again hunted him twice, he going perfectly sound, and one of the days being severe and trying. The horse was then laid up and blistered repeatedly; and in August taken up from the straw yard, with very little enlargement remaining, and likely to stand work.

Now here is a case of intermittent lameness, from what any veterinary surgeon would pronounce to be curb, as the one I consulted did.

This is quite inconsistent with the anatomical and surgical description given of curb, on which veterinary writers seem to agree. The very term springing a curb, and the lesion described, imply so violent a disorganization as would seem to preclude the

possibility of any recovery, except by decisive measures, and "absolute and long-continued rest," as stated in the Treatise on the Horse.

I imagine that I have discovered the explanation of this matter, which I wish to suggest for the scientific inquiry, at least, of the professors of the veterinary art.

I have long since observed a very remarkable difference in the formation of the hocks of horses; a difference merely local, and not, as at present I understand the matter, connected with other particular characters of form. In some hocks (to take the extremes) the tendon stands out prominent, and clear of the bone, so as to be distinctly visible, and perceptible to the touch; the head of the splint bone, I think it is, being small and receding. In others the head of the splint bone is large and prominent, and hiding on a side view the tendon altogether; in other instances the bone projects so much as to destroy the straight line, and in itself to give the appearance of curb.

I have frequently mentioned this peculiarity of formation to veterinary surgeons, as somehow connected with curb, without getting any light thrown on the subject; but is it not possible that, in the latter kind of formation, the bone itself may be so large as to interfere with the action of the tendon; and that by slight and continued friction, swelling, tenderness, and lameness similar to the symptoms of curb, may be produced? Such an affection not implying the severe damage to the sheath of the tendon, or to the ligament said to belong to true curb, might yield to rest and milder remedies than those requisite for true curb.

An intelligent veterinary surgeon in the country, whose name I would mention but that it might lead to my own, suggested the friction on the tendon as possibly producing the evil; but the ligament may be also in some way affected; or a person possessing a more minute knowledge of the structure than I possess may hit on some other explanation.

I am informed that some persons who let hunters for the season or job frequently manage what are called curbs by palliatives only, thereby producing such relief as to lead to very little loss of work. Young horses with curbs are also admitted into some cavalry regiments as sound: the latter fact may consist with true curbs, which are supposed to be generally curable; the former looks more like a curby affection, short of true curb, and capable of the above explanation.

As you inform me that the theory is new, it would be premature for a person unversed in veterinary mysteries to pursue the inquiry much farther; but I may suggest as a point of surgical investigation in the living subject, whether apparent curbs are

more or less manageable or more or less acute or intermittent in the one or the other formation? whether the latter formation be more liable to such affections than the former, as is my own notion of the case. If it be so, an undamaged colt with such hocks, though technically and legally speaking sound, should be avoided where hunting is intended, or other hard work.

I should mention, that the particular horse alluded to has rather prominent splint bones, and was enlarged somewhat at the seat of curb in both hocks. I could not trace the lameness to any particular exertion, but it seemed to have come on gradually.

I had recently under my eye a well-bred filly, with particularly large and prominent bones in both hocks, and she threw out, at grass, about her third year, a curb, which was blistered, and disappeared.

In dissections, attention should be directed to the comparative nearness of the bone to the tendon in the two formations. But one must not "teach fishes to swim :" the veterinarians must work out the subject, if there be any thing in it, condescending to take a wrinkle from one uninitiated in their science.

MR. H. B. RODWAY IN DEFENCE OF HIS PATENT SHOE.

General Patent Horseshoe Offices, 56, Edgbaston-street, Birmingham, Nov. 14th, 1842.

To the Editors of "The Veterinarian."

Gentlemen,—The article in The Veterinarian of this month upon my patent concave horseshoe calls upon me for a few observations.

The subject is touched upon so *delicately* and indirectly that, though much is said, little is there of positive fact or assertion to answer; but that every remark therein can be most satisfactorily answered by me is well known by most in the profession, and nothing can give me greater pleasure than on some future occasion to do so. Not liking half-measures, therefore, I would prefer withholding my privilege of reply till *all* you may say adverse to my patent concave shoe be laid before me.

I have never yet shrunk from inquiry as to the merits or demerits of my patent horseshoe, and the review in The Veterinarian shews clearly I never shall. Fearlessly have I exposed it to the manufacture of hundreds to whom it was previ-

ously unknown, and upon such trial have I been prepared to answer any question which might be put: this, I feel assured, many establishments of the highest standing will admit. I am happy also to say, I have in no case (except with determined prejudice) failed to convince that it had advantages which did not exist in the common shoe. As you appear undecided on one or two self-evident points, I shall be most happy to render any opportunity in my power to accomplish conviction; for my wish has ever been, that the patent concave shoe should stand or fall by its own merits. That you are aware of its having advantages over the common shoe is proved by the respectable testimony you have kindly given of "Mr. Henderson, veterinary surgeon to her Majesty the Queen Dowager, who has been driving about town with his horse shod in Rodway's shoes, and finds him decidedly safer upon wood pavements and slippery surfaces than he was in the shoes he wore before." The appearance of this fact also assures me you have sufficient generosity of nature either to reject that which is palpably bad by *proof*, or, as a duty to your profession, to encourage and assist in adopting that system in which, as yet, no fault of principle has been established, but approved by some of the highest authorities in the kingdom. I have never contemplated the least interference with the trade of the shoeing smith; and those members of the veterinary profession who exclude from their minds every feeling save the good of the community at large, I call upon, freely and openly, to make the observations they may think proper upon the patent concave shoe, and (though several in the profession have tendered their services in such case) as freely and openly will I alone answer them. If the result should prove that the patent shoe should not possess *all* the advantages ascribed to it, it shall be readily acknowledged; on the other hand, if I should, by the testimonies I am in possession of, and the fair tests of the principle by experience, prove it an improvement on the common shoe, I feel assured, from what I know of that profession, they will generously admit it. It was my intention not even to touch at present upon the substance of your review; but my thanks are certainly due, and I beg to tender them, for the following admissions on your part:—"We perfectly agree with Mr. Rodway, that the great objection to the common shoe is its violation of the intentions and principles of nature." Also, "Over improper or bad shoeing, therefore, which indeed is but too frequent, here is an undeniable advantage." Also, "Mr. Rodway's shoe is lighter than the common horse-shoe by some two or three ounces, and therein consists another advantage." Again, "That a shoe with a broad deep groove in it, such as Mr. Rodway's, must prevent a horse

slipping, to the same degree that he would in shoes with plane and smooth surfaces, is too evident, we think, to admit of any question." And again, "In conclusion, we learn from the prospectus, that the patent shoe can be made by the same smiths who have made the common shoe, with little increase of trouble and expense. The trouble or labour, instead of being increased, is greatly diminished. A clever fireman, with a boy to blow the bellows for him, will, single-handed—for he requires no striker—make his gross of shoes a-day. And as for the expense, that is, we understand, but two shillings the cwt. more than that of the common bar-iron, before manufacture, which trifling addition will be greatly more than compensated for in the saving that will accrue from the little labour and workmanship demanded."

Feeling assured that by this time your experience and judgment will have enabled you to acknowledge more of the good qualities of my patent concave shoe, and that, should a defect appear in the material or workmanship, you will not allow it in your mind to prejudice the principle,

I am, Gentlemen,

Your obedient servant,

H. B. Rodway.

MR. L. REVIS IN DEFENCE OF MR. G. HALIDAY—BOTH VETERINARY SURGEONS.

Sir,—I have been for several years a subscriber to your valuable Journal, and have derived much important information from its contents. I can bear humble testimony to its general excellence, and I am sure I never found any article inserted purposely to wound the feelings or injure the character of any one in our profession. You may then, Mr. Editor, imagine my surprise when, on receiving The Veterinarian for the last month, I found an article inserted by Mr. H. W. Sparrow, headed "Inflammation of the Absorbents, attended with Irritative Fever."

Having carefully perused the article, I was perfectly at a loss to imagine what could be Mr. Sparrow's motive for inserting it. Does the statement contain any thing that interests the profession at large, or does it add any thing to the knowledge of the veterinary art? Let us examine the article.

Mr. Sparrow states, that he was requested on the 1st of February, at eleven o'clock, A.M., to give his opinion respecting a horse, the property of the Navigation Company—that he found the horse almost exhausted from loss of blood and want of proper support—and that the pulse was irritable (?)—the membranes of

the nose and eyes healthy—nay, the eyes looked particularly healthy—and the extremities were warm." Are these the symptoms of exhaustion ?

"O *wise* young judge, how do I honour thee!"

Mr. Sparrow then proceeds to treat the animal. He visits it again at two o'clock P.M., at four P.M., at eight P.M., and at six A.M. of Wednesday the 2d of February. From this time to the 7th he never visited the horse again.

On the 7th, he was requested to ascertain the cause of death. What was the result? why, on laying open the stomach and intestines, he did not find a particle of food in the former, but a little fluid in the latter.

He proceeds no farther in his researches. He never looked at the lungs to ascertain whether any disease was there; but pronounces that the horse had been starved to death, and calls the veterinary surgeon in attendance a miscreant, &c. What a wonderful post-mortem examination !

Will Mr. Sparrow have the goodness to inform me how it happened that he was so very assiduous in his attendance on the 1st, and even so early as six o'clock in the morning of the 2d, yet he never took the trouble to see the horse after that time, but left it in the hands of the smith, as he calls the veterinary surgeon ? Surely, the leg that was so immensely swollen, and had suppurated to a most alarming degree, required some attention, some examining and dressing at least once a-day. But no: so long as the stomach would perform its functions, it mattered not to Mr. Sparrow what disease or injury was going on in the other parts of the body. The " leg so immensely swollen" might mortify off; still, it was not worth noticing so long as there was a particle of food in the stomach:—but enough !

The whole article is evidently a partial statement; and if the "blacksmith who does a little farrying" would deign to notice it, I have no doubt we should have a very different version of the affair. He, perhaps, does right in treating the matter with sovereign contempt. I, however, cannot refrain from telling the truth of the matter.

Mr. Geo. Haliday was the veterinary surgeon in attendance on the horse. He is a respectable old gentleman. He was regularly educated at the Veterinary College, in London, and possessed for many years the greatest share of practice in this neighbourhood. He certainly once kept a forge; but what veterinary surgeon, at one time, did not? He has not kept one for many years; but even if he had kept one, I have to learn what disgrace there would be in so doing. Mr. Sparrow, apparently, does not

know the fable of the kettle and the pan, for he himself keeps a forge, and professes to shoe horses on an approved principle.

I should not have troubled you at this length, but I thought that you had been imposed upon, and your Journal made the medium of a cruel attack on one of the veterans of our noble art.

I am, Sir, your's, &c.

New Malton,
Oct. 26th, 1842.

[We insert the above letter most unwillingly. We have no doubt that Mr. Sparrow labours under some misapprehension, and that the matter will be perfectly cleared up with regard to both parties.—Ed.]

ADDENDA ET CORRIGENDA

TO CASES IN THE LAST NUMBER OF "THE VETERINARIAN."

By Mr. W. C. Lord, *V.S., Parsonstown.*

Although it was within half an hour of the post leaving for London on the 13th of last month when I was writing those cases that have appeared in The Veterinarian, and I knew they should be there on the 15th, consequently had not time to look them over when they were written, yet I think I could not have made such a mistake as to write "glanders" instead of "tumours" on the end of the cord, or what the French term champignon, a disease which has scarcely at all been noticed by any of our English veterinary authors, with the exception of Mr. Percivall, who gives a minute detail of it in his "Hippopathology." It is very strange that the English have so long omitted entering fully into the nature and treatment of this disease, as it is not by any means uncommon, at least in this part of the globe. I have now another very bad case of it in my infirmary, which I am trying to remove by sloughing; but if I do not soon see decided amendment, I am determined to remove it with the knife, as the last case succeeded so admirably.

[I do very much regret that the stupid blunder to which Mr. Lord refers should have occurred. If at some future period I should have the pleasure of meeting Mr. Lord, I may probably shew him the strange similarity between the two words as written by him and misinterpreted by me, and at which we may have a laugh together; yet that would be no excuse for a degree of carelessness, on my part, which ought not to have existed.—Y.]

THE VETERINARIAN, DECEMBER 1, 1842.

Ne quid falsi dicere audeat, ne quid veri non audeat.—Cicero.

The date prefixed* reminds us we are approaching the close of another year. That old cormorant, Time, has already swallowed ten months and a half of the current one, and by the time these lines shall meet the eyes of our readers, he will have got into his rapacious jaws the twelfth—cold, dreary, dark December. *Sic transit gloria mundi.*

> "To-morrow, and to-morrow, and to-morrow,
> Creeps in this petty pace, from day to day,
> To the last syllable of recorded time."

Our Journal proudly commenced the year now so nearly ended with the names of Cartwright, Dick, Ernes, Field, Karkeek, King, Mayer, Spooner; and by the continued kindness of friends in this, the last number, appear names no less known and respected in the veterinary world. Thus have we, in names at least, well begun and well ended: let us now cursorily inquire, through a retrospective glance into the pages of our monthly record, what in matter we have acquired during the year 1842.

First and foremost stand Mr. Karkeek's erudite papers on the Ancient History of the Ox; contributions to general science which will be perused not by the veterinarian alone, but by the natural historian, and by the philosopher too, with pleasure, interest, and instruction. While we quite agree with the Turners in the unequalled potency and efficacy of firing as a remedy in cases of relapsing lameness, failure, or "break down" in the sinews, we hail with gladsome voice, as friends of humanity, a mode of after-treatment so admirably calculated to alleviate the sufferings of our poor patients, and shield their limbs from blemish, as that recommended by Mr. C. Percivall. Mr. Dick's novel views respecting that horrid disease, *rabies*, although differing from those of many of us on this side the Tweed, shall yet be kept in mind, and have all the consideration from us they de-

* This was written on the 15th of November.

serve from the authority whence they emanate. There is something in the singular case of idiopathic rabies related by Mr. Kimball which seems to be available by Mr. Dick in support of his theory. Mr. Mayer's "matters of curiosity" contained in accounts of "the Veterinary Art in India," by a surgeon, a man of science and observation, who had seen no other veterinary work but the first volume of Professor Coleman's "Foot," have all along added variety and amusement, not unmingled with information, to the current contents of our Journal. Our time-honoured friend, Mr. King, senior, whom

"Age and long experience have rendered wise,"

has recommended us to tie the saphena vein for blood-spavin, and subsequently blister or fire; and when we are forced to treat this, in general, harmless disease, we shall not lose sight of his practical advice. It is of great consequence for us to be in possession of a sound diagnosis between palpitation of the heart and spasm of the diaphragm; and Mr. Beeson has herein assisted us. We remember the time when the operation of division of the flexor tendons was scouted as barbarous and ineffectual: among many others, Mr. Carlisle's case completely refutes this ill-grounded theory. At the same time he has introduced a novelty in operating, in making "*a longitudinal* section of the tendon." Mr. Ramsden, in a similar case, obtains equal success by the old method of "cutting transversely." Future trials will teach us the best practice; or it may turn out that our practice should be varied according to the nature of the case. Mr. Davie, who has also operated with the happiest result, concludes his account with saying, "I am inclined to prefer the transverse to the longitudinal direction," i. e. incision. Albuminous urine Mr. Markham has remarked to proceed from organic disease of kidney. Compound fracture of the jaw, under the united management of Mr. Mavor and Mr. Kerr, has been successfully treated by a novel and very ingenious kind of apparatus. Mr. Jos. Sewell has recorded a singular case of psoas abscess in a mare. The diniodide of copper has had its good effects in farcy tested by Mr. Lord; and the same gentleman has spoken highly in favour of the deuto-ioduret of mercury as a local application: we have

tried it, and found it fearfully active—potent even beyond bichloride of mercury. One more case of recovery is recorded of that formidable disease, hydrothorax: in this instance we believe recovery was the result of *cure;* not by *paracentesis thoracis*, we opine, although that was performed, and no doubt afforded relief; but through the exhibition and saturation of the system with mercury: the case reflects the greatest credit on Mr. G. Holmes, of Thirsk, in Yorkshire. Mr. Tindal's miscellaneous accounts of disorders befalling the horse, the dog, the sheep, the cow, shew the veterinarian in his true character, prepared to heal all that may come before him; casting round the world an equal eye, and feeling for all that live.

From our old and excellent correspondent, Mr. Tombs, we have a case of "epilepsy," or megrims, or vertigo, which appears to have owed much of its recovery to letting blood from the temporal arteries, a practice we have always ourselves warmly advocated in acute encephalic inflammations, and in congestion. For another case of that fatal disease, rupture of the diaphragm, which, though peculiar to the horse, was first brought to our notice by a surgeon, we are indebted to Mr. Ernes. An instance, rare of its kind, of idiopathic tetanus occurring in a yearling bull-calf, is recorded by Mr. Copeman. We do not think Mr. Younghusband had much to apprehend in cutting off a portion of protruded omentum he was unable to return into the wound in the abdomen: every surgeon would have done the same thing, and fearlessly; but his case is instructive, as shewing the inconvenience—if not danger—of suffering air to enter the abdominal cavity. The Prize Essay of Mr. Cowie will not be forgotten either by the veterinarian or the agriculturist: the writer of this has long felt assured in his own mind that great improvements might be—and one day will be—made in horse and cattle dietetics: the regular course of feeding—hay and raw oats—cannot surely be the best; or, if the best as regards the horse for certain work, is not that which appears best suited either for the agricultural horse's stomach or for his master's pocket. The ergot of rye has been shewn by Mr. Harrison, surgeon, Chester, to have exerted the same beneficial influence on a bitch in labour as it would have done on a human being. The presence of worms (*teretes*)

in the stomach of a mare caused inverted action of that organ and regurgitation into the œsophagus; attempts at, but not actual, vomition. For the case we return thanks to our correspondent Mr. J. D. Harrison. On melanotic disease, much—all, almost—remains to be done. Mr. Dick has been mainly instrumental in calling our attention to the subject: it was likewise a favourite study of one whose memory we all revere—the late Mr. John Field. Within the annals we are revising will be found an interesting sketch on the same subject by Mr. Poett.

Such is a faint outline of the contents of our Journal for the first six months of the present year. In the course of the whole of the year our contributors have nearly reached one hundred separate individuals, a number of which in no previous year had we been able to boast. With proud and grateful feelings we regard this list. We compare the different state of the veterinary art in 1828 and 1842, and we ask, who has effected this improvement? The contributors to THE VETERINARIAN. That book is a boon of intellectual and professional worth. Our friends have made it so. We have had but little more than to arrange a series of interesting and invaluable communications. The present day, and future ages, will testify the glorious progress that has been effected; and to one and all of our correspondents we offer our warmest thanks.

There is one topic which has purposely been left unnoticed, but which, when the season arrives, shall, nevertheless, receive at our hands every consideration and support in our power to bestow upon it;—we mean, THE CHARTER. In the interval we strongly urge those gentlemen who have so kindly taken upon themselves the labours of the task, not to relax in their efforts; but, when the fitting time shall arrive, to renew their petition, and to do so *in a body*, and not as one party asking for that of which another disapproves. They must not forget the ancient adage, *vis unita fortior*.

Imperial Hotel, Covent Garden,
Nov. 14, 1842.

The Commiitee of Veterinary Surgeons, in returning their sincere thanks to the members of the profession at large for the liberal manner in which they have assisted them with their contributions, respectfully request that those who have not yet paid their subscription will kindly forward the same, per post office order or otherwise, to the Treasurer, Mr. F. King, jun., of Stanmore, Middlesex, as it is their intention shortly to publish a list of the subscribers and a statement of their accounts, &c.

Mr. SHAW'S TESTIMONIAL.

Our readers are respectfully informed that the Testimonial to Mr. Shaw will be presented to him on Thursday, the 8th of December, at the London Coffee House, Ludgate Hill, at five o'clock in the evening, precisely.

It will not be forgotten, that while Mr. Shaw was, in point of fact, *the father of the English Agricultural Society*, and still continues to be its most strenuous supporter and ardent friend, he has lost no opportunity of cordially contributing to the onward progress of the veterinary art; and to the determination of Mr. Shaw and others, who were always ready to support the cause of veterinary science, we in a great measure owe it that the instructions at the Veterinary College are now more worthy of their noble object.

Messrs. Percivall and Youatt would be most happy to receive any communications from their friends on this subject.

CASES OF POLL-EVIL.

By Mr. J. R. Atcherley, *Bridgnorth.*

Should you think the following cases and observations contain matter of the slightest interest, they are at your service.

The first is that of long-standing chronic cough in an eight-year-old carriage horse, that was placed under my care on the 3d of September.

I commenced the treatment by giving an aloetic aperient, and afterwards the hydrarg. chlorid. 3i, cum pulv. opii gr. vij, twice in the day, until the mouth and gums were obviously affected and the action of the salivary glands considerably increased. On the 17th, I discontinued the treatment, the patient having taken hydrarg. chlorid. 3xviij, and pulv. opii 3ij gr. vj, and the

cough being very slightly relieved; but from this period it gradually decreased in frequency, and at the present moment the horse's wind is perfectly sound. At no time during the exhibition of the mercury was there any loss of appetite, or the bowels at all acted upon.

The next are three cases of incipient poll-evil: the first a six-year-old mare, which came under treatment on the 20th of May, with painful enlargement on each side the cervical ligament, of the size of a hen's egg. The hydriodate of potash with ung. hydrarg. fort., in the proportion of ʒiss to ʒj of ung. hydrarg. was well rubbed in once a-day for three weeks, without any marked benefit. The ointment was then washed off, and the hydriodate with sapo. lini. in the above proportion well applied for a month daily; at the end of which time the enlargement had subsided, and the head was carried in its natural position. In the two following cases (both mares) there was enlargement and evident fluctuation. They were cured, in the course of six weeks, by the regular application of the hydriodate and sapo. lini. well rubbed in every day.

Having seen THE VETERINARIAN in the hands of many agriculturists, I beg, with all due deference, to offer my opinion, that a frequent cause of poll-evil (at least in that part of the county of Salop in which I am located) may be traced to the use of a sort of martingale, attached by hooks to each side of the chain rein of the bridle of the cart-horse, and by a strong strap round the front and lower part of the collar; and I think the injury is produced not more by the fixed position of the head than by the jerk given to the collar, and, consequently, to this same martingale by any sudden springing forward which the animal may make, as from the stroke of a whip, &c., the horse in going indolently along generally pulling the collar forward in order to relieve the different muscles of the neck. This is not the only loss the owner is likely to sustain; for I think it impossible that so much weight can be thrown into the collar as with the horse's head more at liberty, and in drawing heavy weights up hill he is very likely to be induced to gib.

I must now, Sir, having trespassed too long on your time and patience, beg to subscribe myself,

Your obedient servant, &c.

HORSE CAUSE: A CASE OF SPAVIN.

MR. COCKBURN, with whom was Mr. Wordsworth, conducted the case for the plaintiff: and Mr. Thesiger and Mr. Whitehurst appeared for the defendant.

The action was brought on a warranty as to the soundness of a horse. The plaintiff is an extensive dealer in horses, carrying on business in the London-road, and the defendant was in the same line in Warwickshire, until about twelve years ago, when he became a publican. He, nevertheless, now and then bought a horse to sell again; and in January, in the present year, sent a nag to Banbury for that purpose. The horse was purchased by an agent of the plaintiff, who received at the same time a warranty of soundness. A few days after the arrival of the animal in London, it was discovered that it was lame in one of its hinder legs; and the question to be determined upon the present occasion was, whether such lameness, or its cause, had existed at the period of the purchase, or whether it was the result of an accident received subsequently.

On the part of the plaintiff, Mr. Spooner, the Professor at the Veterinary College, and Mr. Field, were called, who stated that the lameness was the effect of spavin, which, from its symptoms, could not have made its original appearance so recently as subsequently to the sale.

On the other hand, Mr. Kerr, also a veterinary surgeon, denied the existence of a spavin, and attributed the lameness to a ligamentous injury, which the animal might have sustained either during its journey to or even since its arrival in town. The two former Professors said, that such a spavin as that which this horse had could not have been in existence less than six weeks or two months.

Mr. Baron Alderson left it to the jury to say, whether, upon the evidence, the spavin was or was not in existence at the time of sale by the defendant. The plaintiff had paid £40 for the horse, and on selling it at Tattersall's it had realized, after the expenses attendant thereon had been defrayed, not more than £26 1s. 9d. If, therefore, the jury were of opinion that the horse was unsound on the 19th of January, the day on which it had been sold by the defendant, they would find a verdict for the plaintiff for £15 18s. 3d. and such further amount as was fair and reasonable for the keep. Upon the point of soundness there appeared a difference of opinion—a result which was not at all of uncommon occurrence, seeing that veterinary men frequently differed with regard to the spavin. The jury would, however, give the question and the evidence their full consideration, and find a verdict accordingly.

The jury, after consulting some time, retired to consider their verdict, and after an absence of nearly four hours returned, finding for the plaintiff with damages £20 18s. 3d.

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